



Supplemental Guide to the Redistricting Software

Software Version 2.36

Document Version 1.2: August 2021

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Introduction

Thank you for your interest in Oregon redistricting!

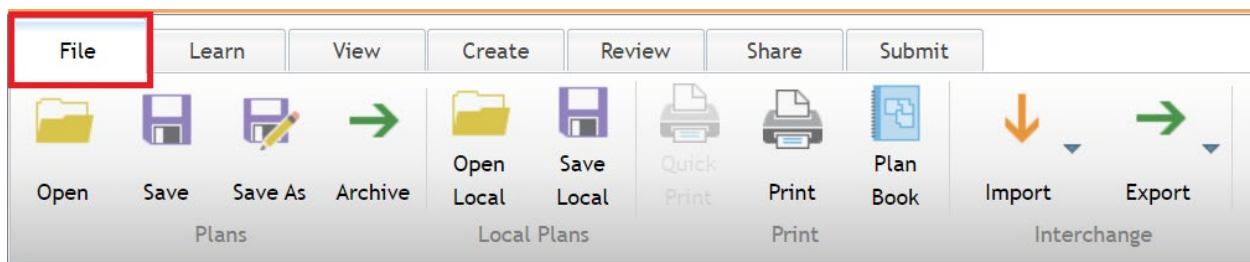
This document covers additional topics in the ESRI redistricting software that are not covered in the *Getting Started with the Redistricting Software* document or in the introductory training videos. If you have not reviewed those yet, you can find them on Oregon's official redistricting website at

<https://www.oregonlegislature.gov/redistricting> (we strongly recommend working through the *Getting Started* guide before proceeding here). The website also includes information about Oregon's redistricting process and the redistricting committees.

This document was prepared by the redistricting team at Oregon's Legislative Policy and Research Office (LPRO). For questions, comments, or suggestions, please e-mail us at Oregon.Redistricting@oregonlegislature.gov.

File Ribbon

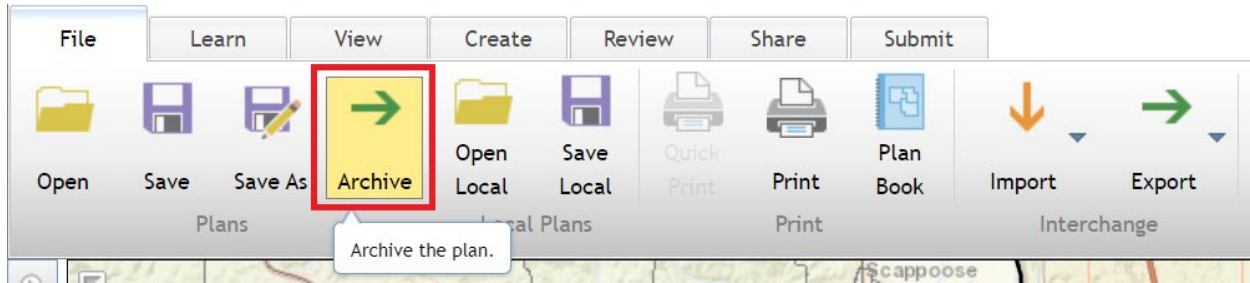
Functions in the File ribbon (shown below) not covered in the introductory training materials include Archive, Open Local, and Save Local.



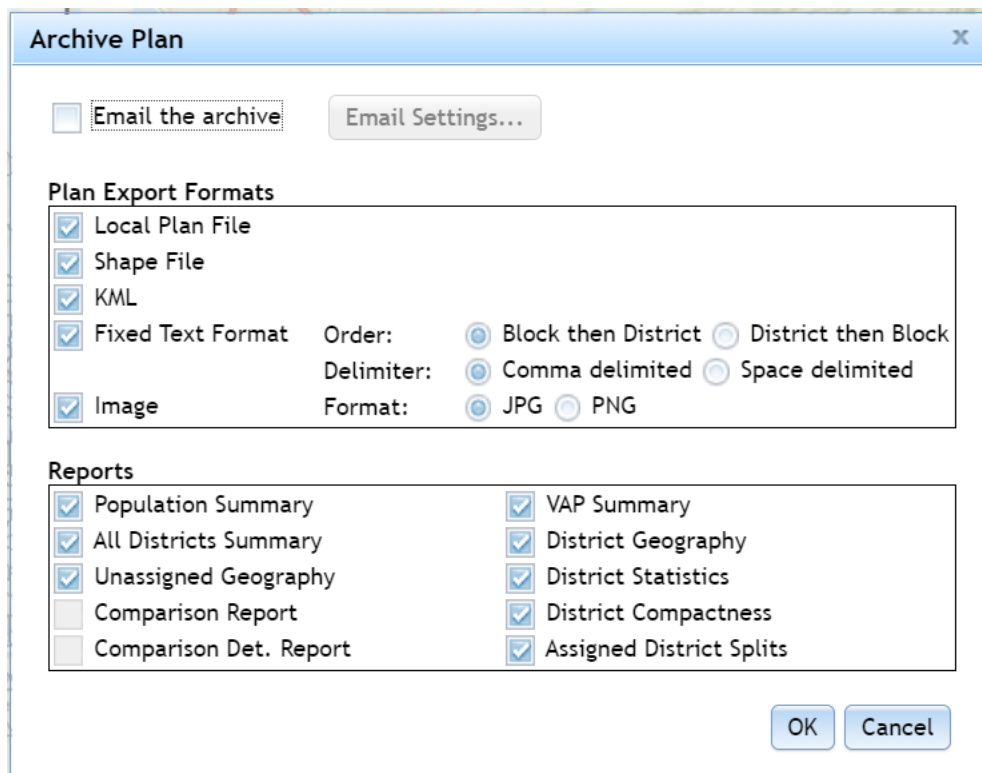
Archive

You can archive your plan for reference, sharing, and storage purposes. Archive creates a ZIP file of your plan.

Click on the Archive button in the File ribbon:



The Archive Plan window appears:



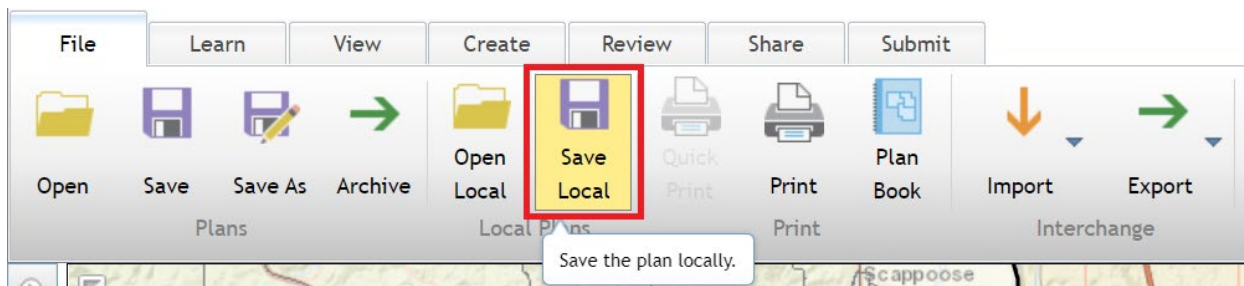
In this window, you can choose what gets included in the ZIP file. The top box, Plan Export Formats, includes the formats from the Export function covered in the introductory training, along with a few other options. The bottom box, Reports, includes the reports you can add to the ZIP file.

At the top of the window you can check Email the archive, which e-mails the finished ZIP file. If you click on the Email Settings button, you can customize who receives the e-mail.

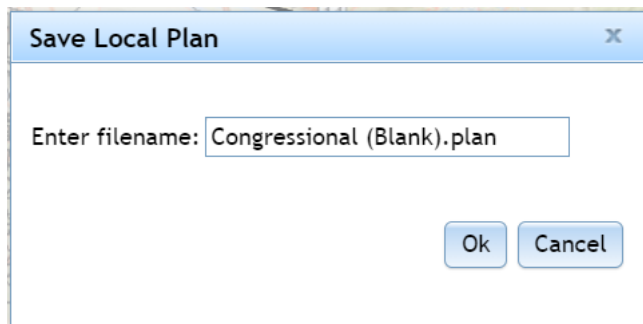
Check the boxes for export formats and reports you want, and uncheck the ones you do not. Once you have chosen what to include in your archive, click OK and follow any on-screen prompts. Your Internet browser should prompt you to download the file.

Open Local and Save Local

You have the option of saving plans locally (to your computer's hard drive) instead of online. To save a plan locally, click on the Save Local button in the File ribbon:

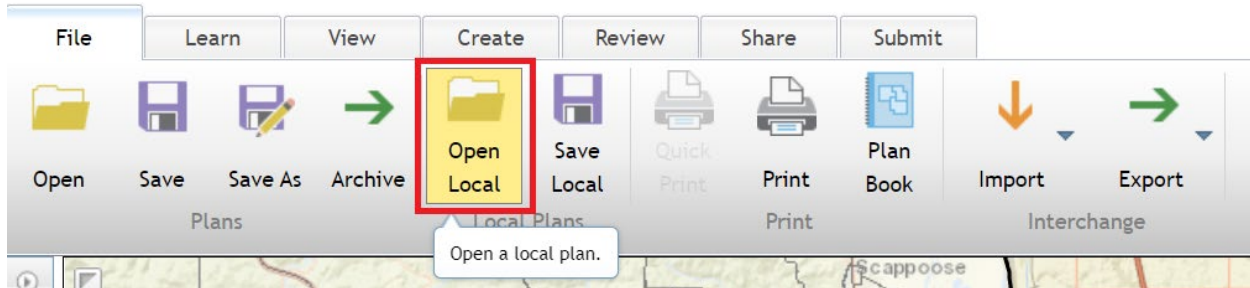


The Save Local Plan window appears. You can change the file name, but be sure to keep the “.plan” suffix at the end of it.



After you click the OK button, your Internet browser should prompt you to download the file.

If you want to open a locally-saved plan, click the Open Local button in the File ribbon:



A standard open window will appear, and you can navigate to your plan file and click Open to open the plan.

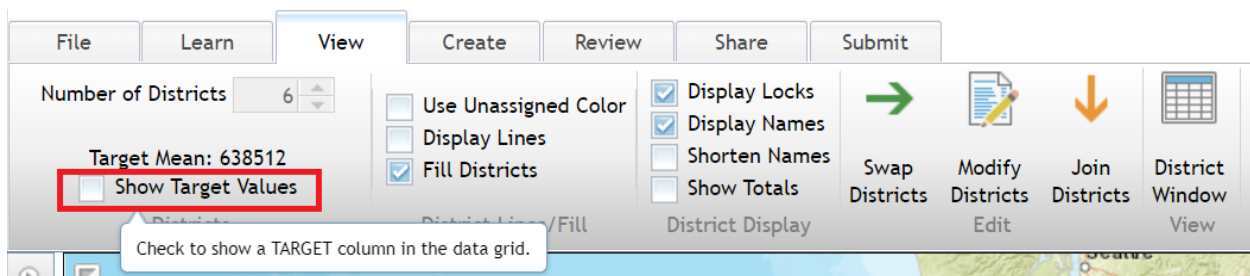
View Ribbon

Show Target Values

In the View Ribbon, you can select whether the target value shows in your District Window or not.

The target refers to the “target” population for your districts. This is equal to the total state population divided by the number of districts. Districts must be as close as possible to that number for Congressional districts. Legislative districts must be close to the target value too, but a specific acceptable threshold has not been specified by the courts at this point (the general guideline is within 10% of the target).

Clicking the Show Target Values box toggles the target field on and off:



When the box is checked, the Target field appears in your District Window:

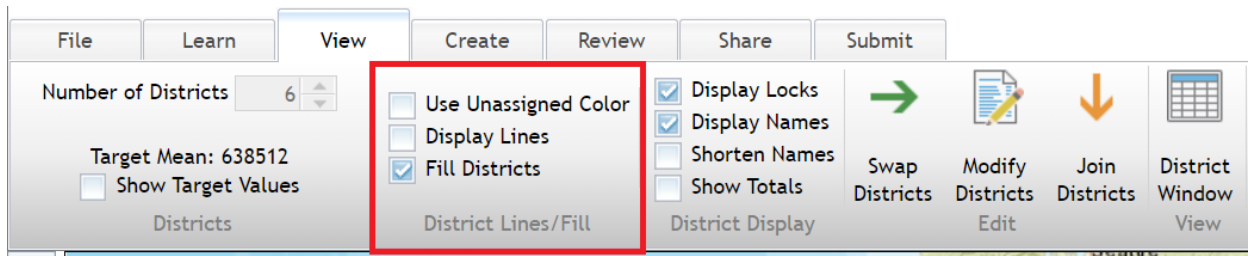
District	Color	Hide	Lock	TOTAL	TARGET	TARGET_DEV	TOTALHISP	TC
Unassigned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3,831,074	0	3,831,074	450,062	
District 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	638,512	-638,512	0	
District 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	638,512	-638,512	0	
District 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	638,512	-638,512	0	
District 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	638,512	-638,512	0	
District 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	638,512	-638,512	0	

1 - 7 of 7 results

Unchecking the box removes the Target field from the window.

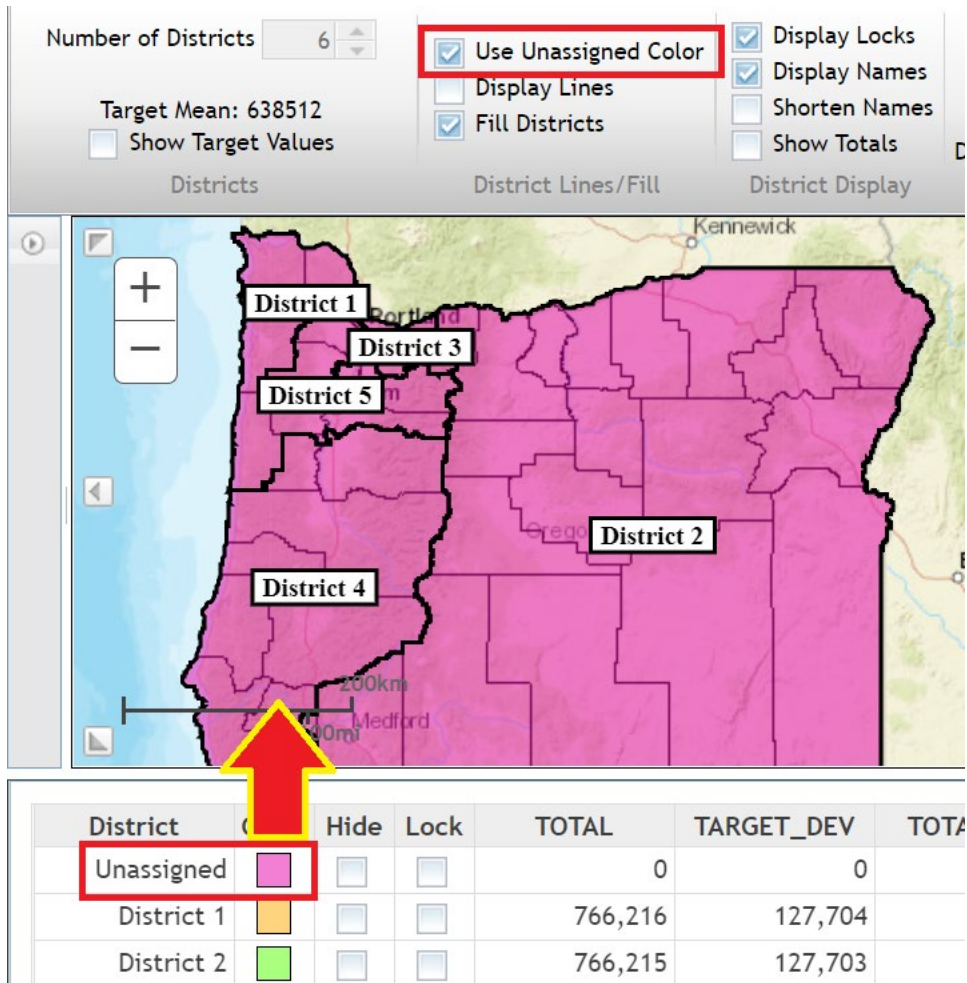
District Lines and Fill

The District Lines/Fill section of the View ribbon includes options to change how your districts look on the map:



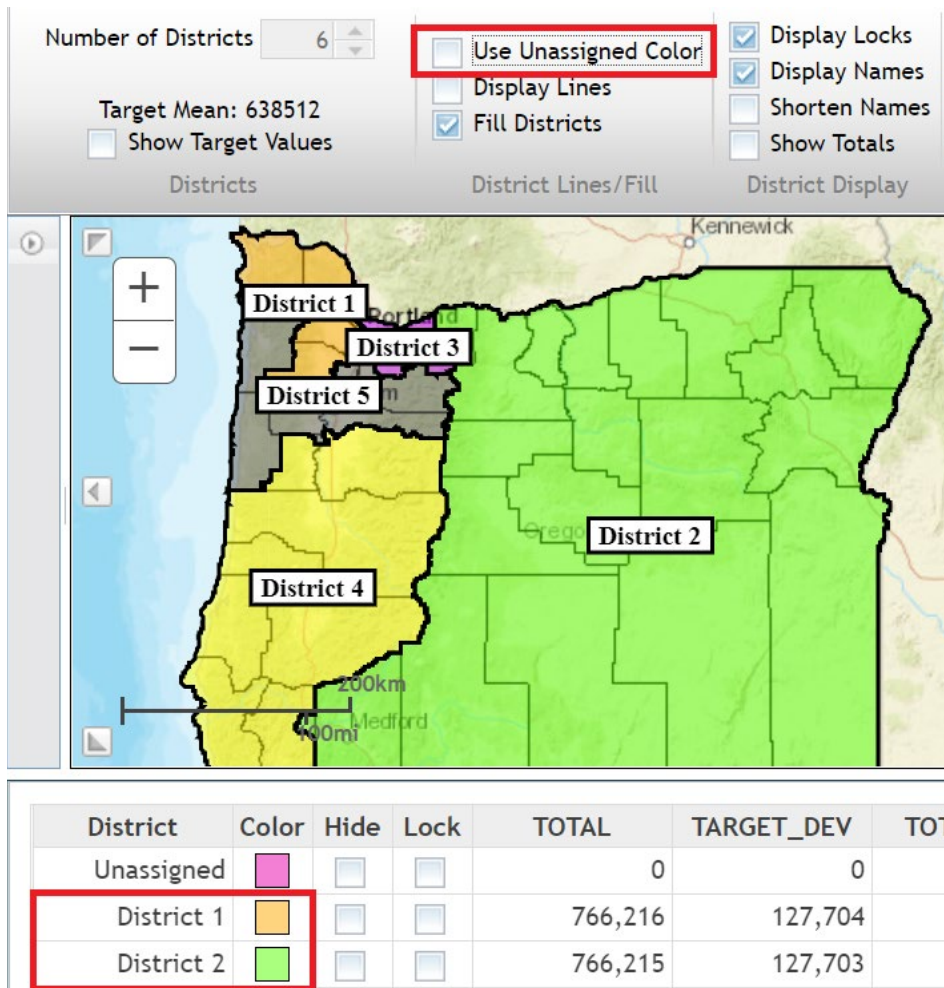
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When Use Unassigned Color is checked, instead of every district using a separate color, all districts on your map will use the color your plan uses for unassigned areas:

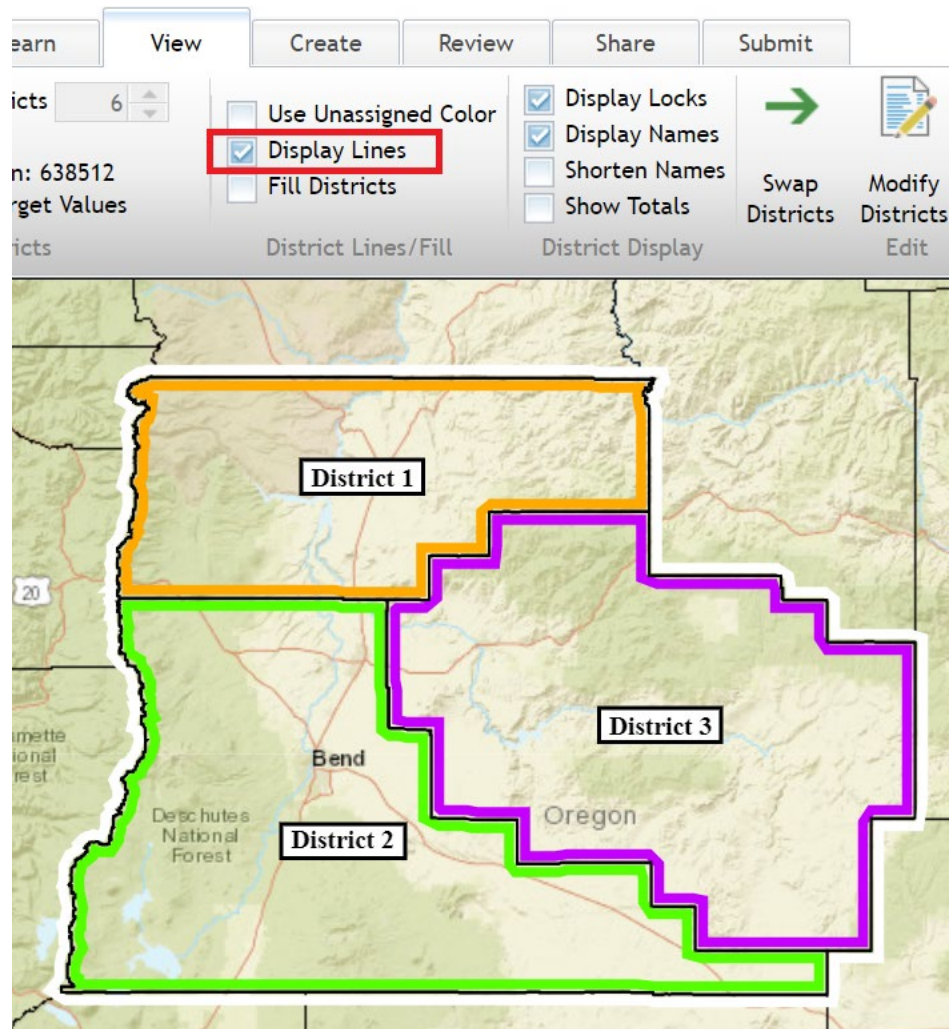


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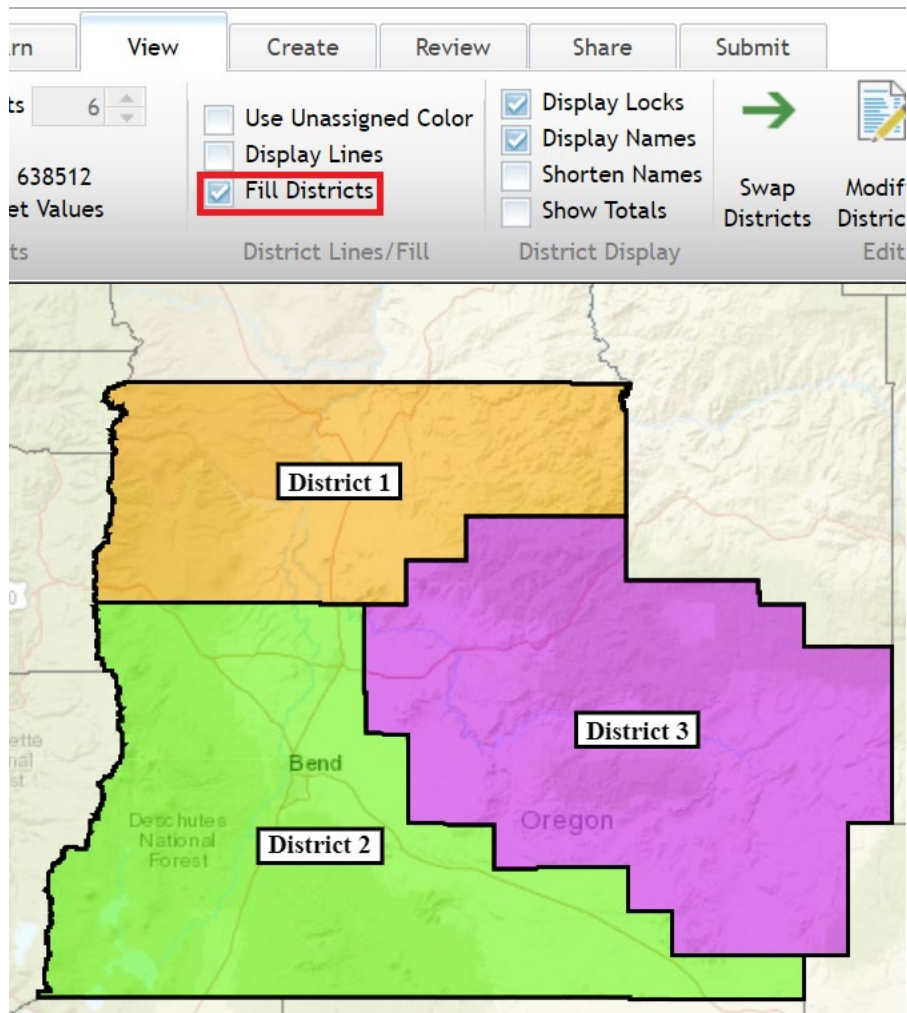
Unchecking the box draws the districts using their own colors:



When Display Lines is checked, your districts will be bounded by colored lines:

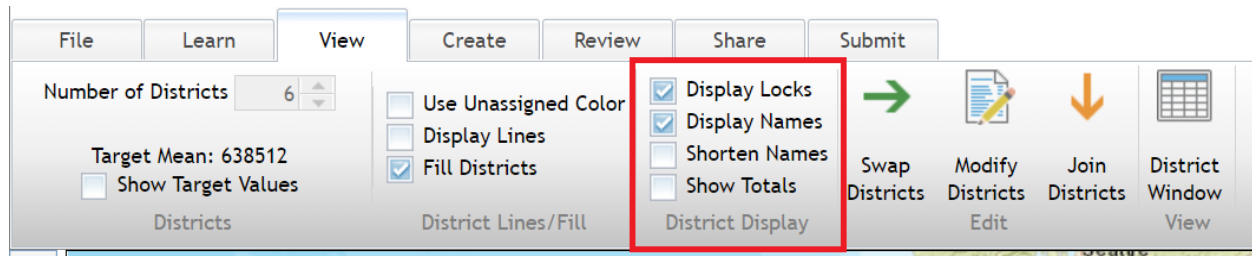


Fill Districts is checked by default. When that option is used, your district polygons will be filled instead of outlined:



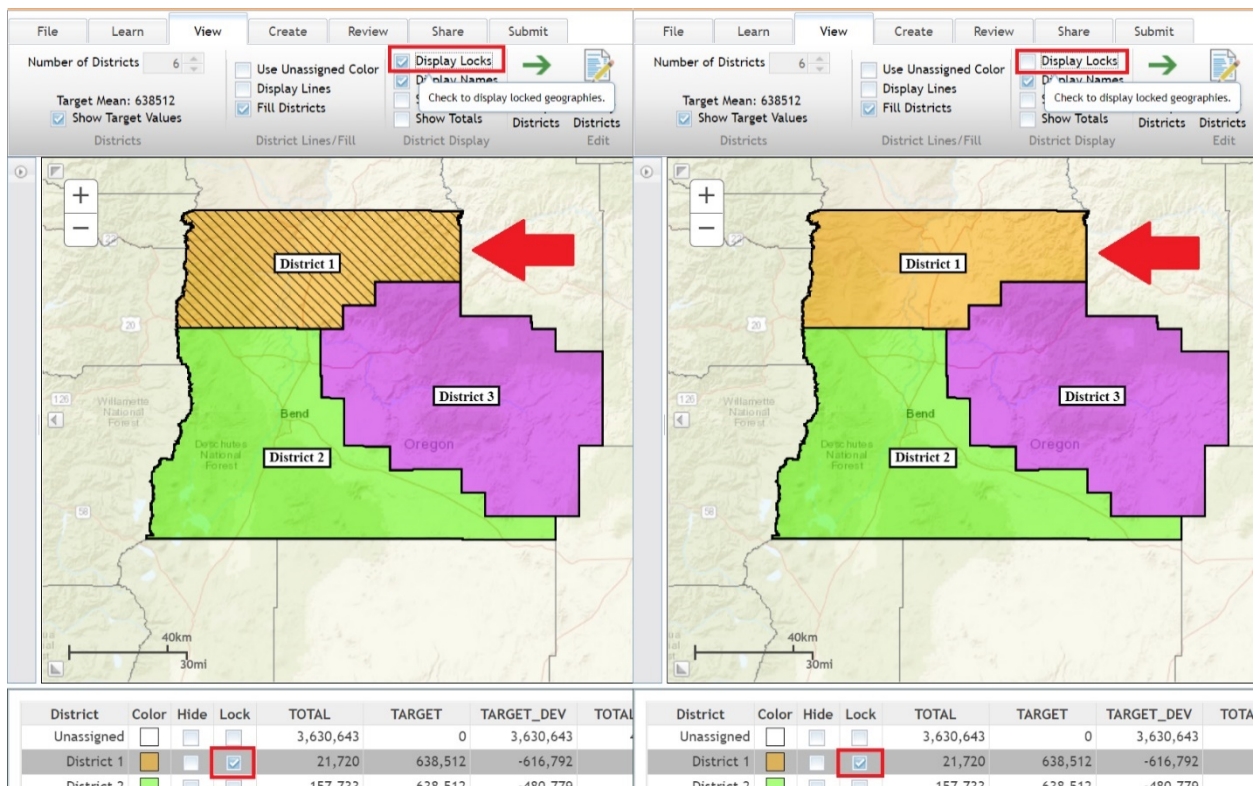
District Display

The District Display section of the View ribbon includes additional visual options:

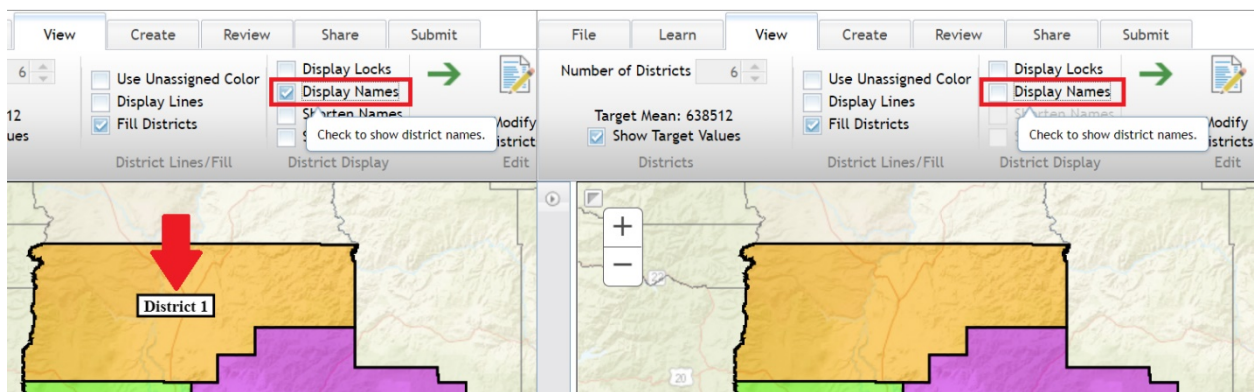


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If Display Locks is checked, any of your locked districts will show the cross-hatch pattern (shown on the left below). If Display Locks is unchecked, locked districts will still be locked, but the cross-hatch pattern is not displayed (shown on the right below):

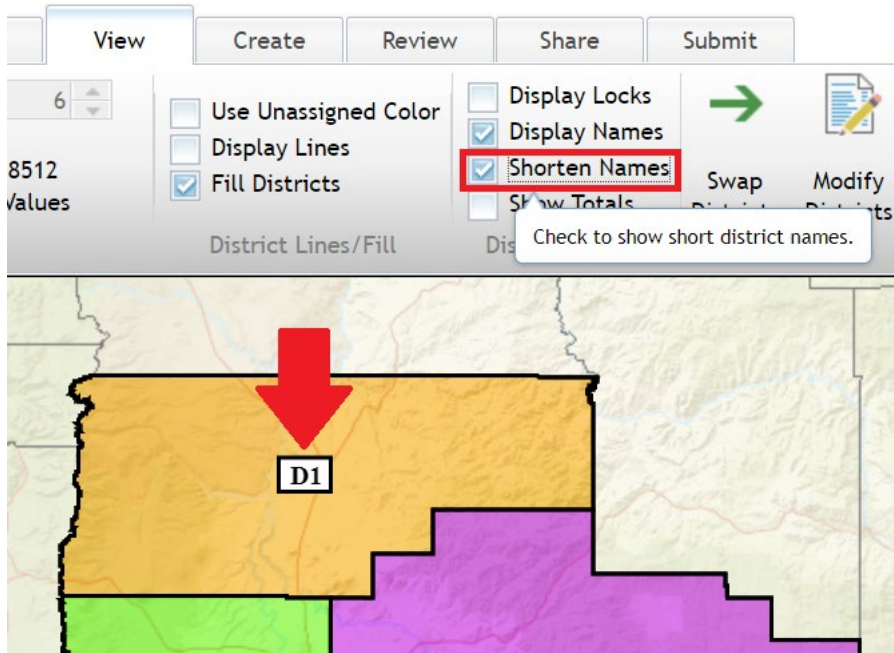


If Display Names is checked, the district name will appear on your map (shown on the left below). If it is unchecked, districts will not be labeled (shown on the right below):

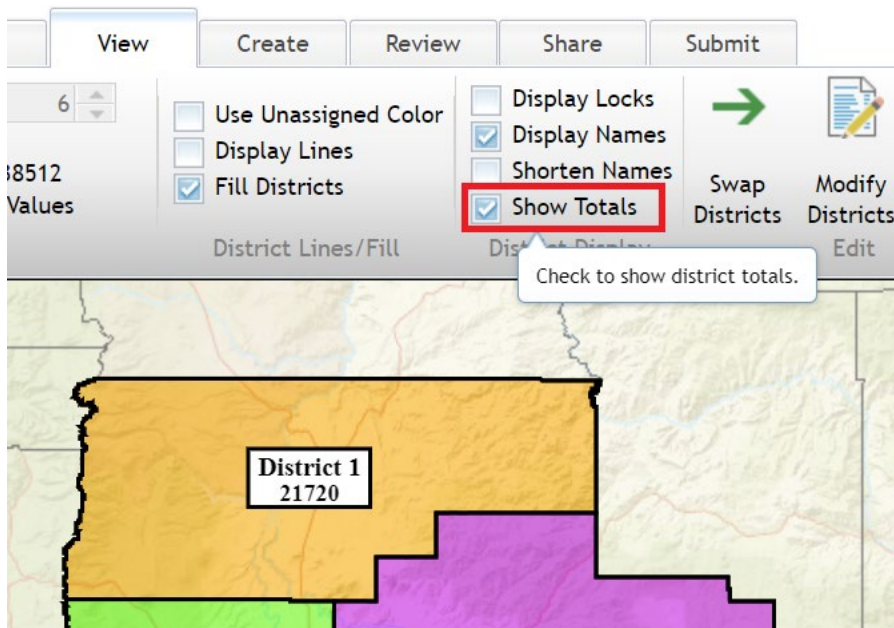


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If Shorten Names is checked, then the district label on the map is abbreviated (the Display Names box must also be checked to use this option):

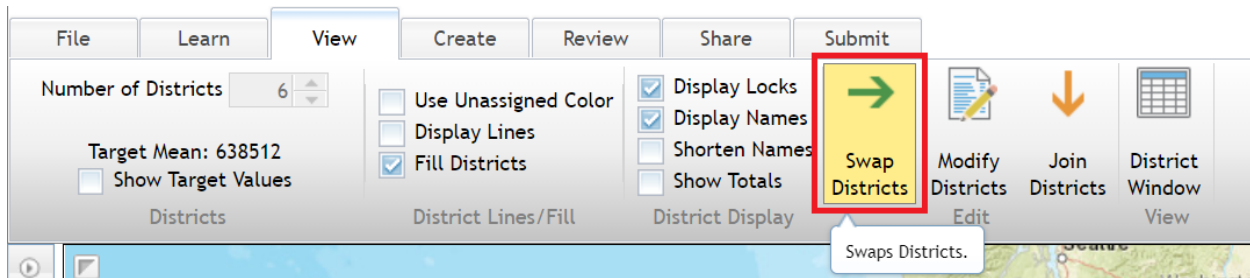


If Show Totals is checked, then the district population is shown on the map (the Display Names box must also be checked to use this option):

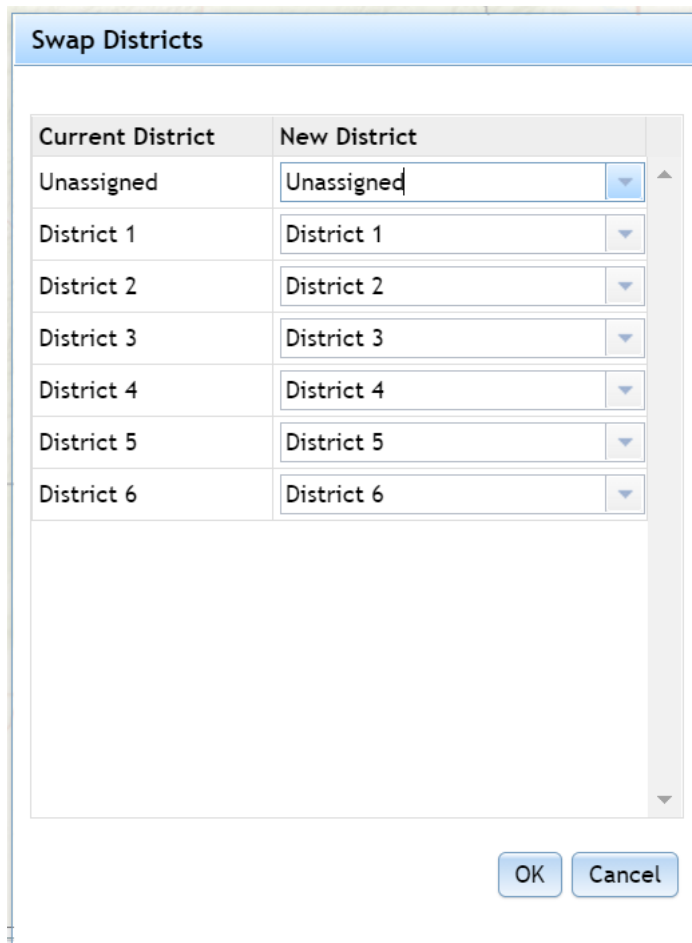


Swap Districts

The Swap Districts function lets you swap district names:



Clicking on the Swap Districts button brings up the Swap Districts window:



The left column shows the current district numbers. The right column has drop-down menus for each district which let you choose which

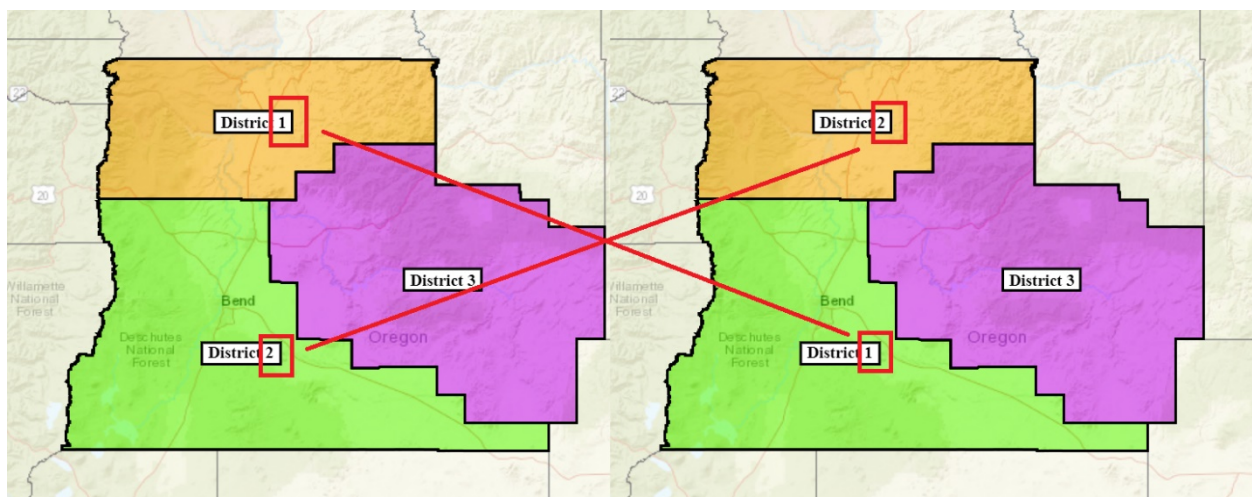
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district to reassign them to. In the example below, districts 1 and 2 are swapped with each other.

Swap Districts

Current District	New District
Unassigned	Unassigned
District 1	District 2
District 2	District 1
District 3	District 3
District 4	District 4
District 5	District 5
District 6	District 6

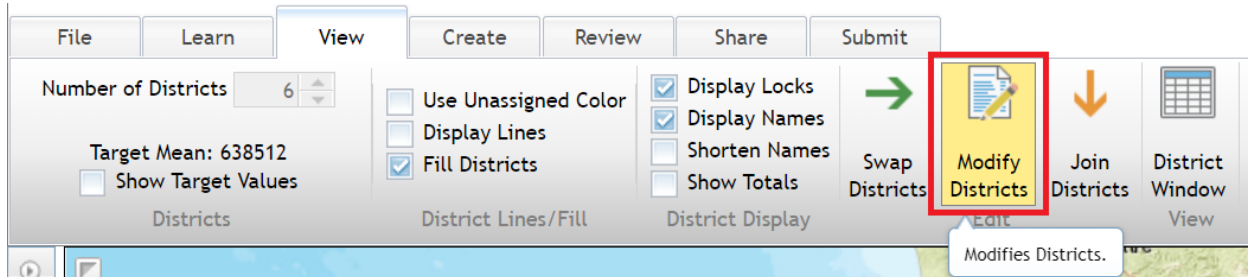
OK Cancel



Note that only the district names (in this case, district numbers) change. The colors, data, and geographies do not.

Modify Districts

Click the **Modify Districts** button in the **View** ribbon for options to modify districts:



The Modify Districts window appears:

Modify Districts

ID	Number	Long Name	Short Name	Target Value	Number of Representatives
0	0	Unassigned	Unassigned	0	0
1	1	District 1	D1	638512	1
2	2	District 2	D2	638512	1
3	3	District 3	D3	638512	1
4	4	District 4	D4	638512	1
5	5	District 5	D5	638512	1
6	6	District 6	D6	638512	1

Target Value Sum:

3831072

Target Field Sum:

3831074

Total Target Deviation:

-2

District Caption:

District

Target Field:

TOTAL

Import..

Export..

Remove..

Reset Target Values...

Ok

Cancel

Each district in your plan is listed here. In this list, you can double click on some variables to change them. For example, if you double click a district's long name, you can change it:

ID	Number	Long Name	Short Name	Target Value	Number of Representatives
0	0	Unassigned	Unassigned	0	0
1	1	The Best Example	D1	638512	1
2	2	District 2	D2	638512	1
3	3	District 3	D3	638512	1

The Short Name can also be changed, which is what shows up when the Shorten Names option (discussed earlier) is checked. The District Number (District 1, District 2, etc.) can be changed here. You can change the Number of Representatives, however, in Oregon every district is represented by only 1 person, so adjusting the number of representatives here is not very useful.

Using the Import and Export buttons allows you to import and export this table.

The Remove button lets you remove a district, but be aware you cannot add it back to your plan if you do this.

If you want to call your districts something other than a district, a few other options are available:

ID	Number	Long Name	Short Name	Target Value	Number of Representatives
0	0	Unassigned	Unassigned	0	0
1	1	The Best Example	D1	638512	1
2	2	District 2	D2	638512	1
3	3	District 3	D3	638512	1
4	4	District 4	D4	638512	1
5	5	District 5	D5	638512	1
6	6	District 6	D6	638512	1

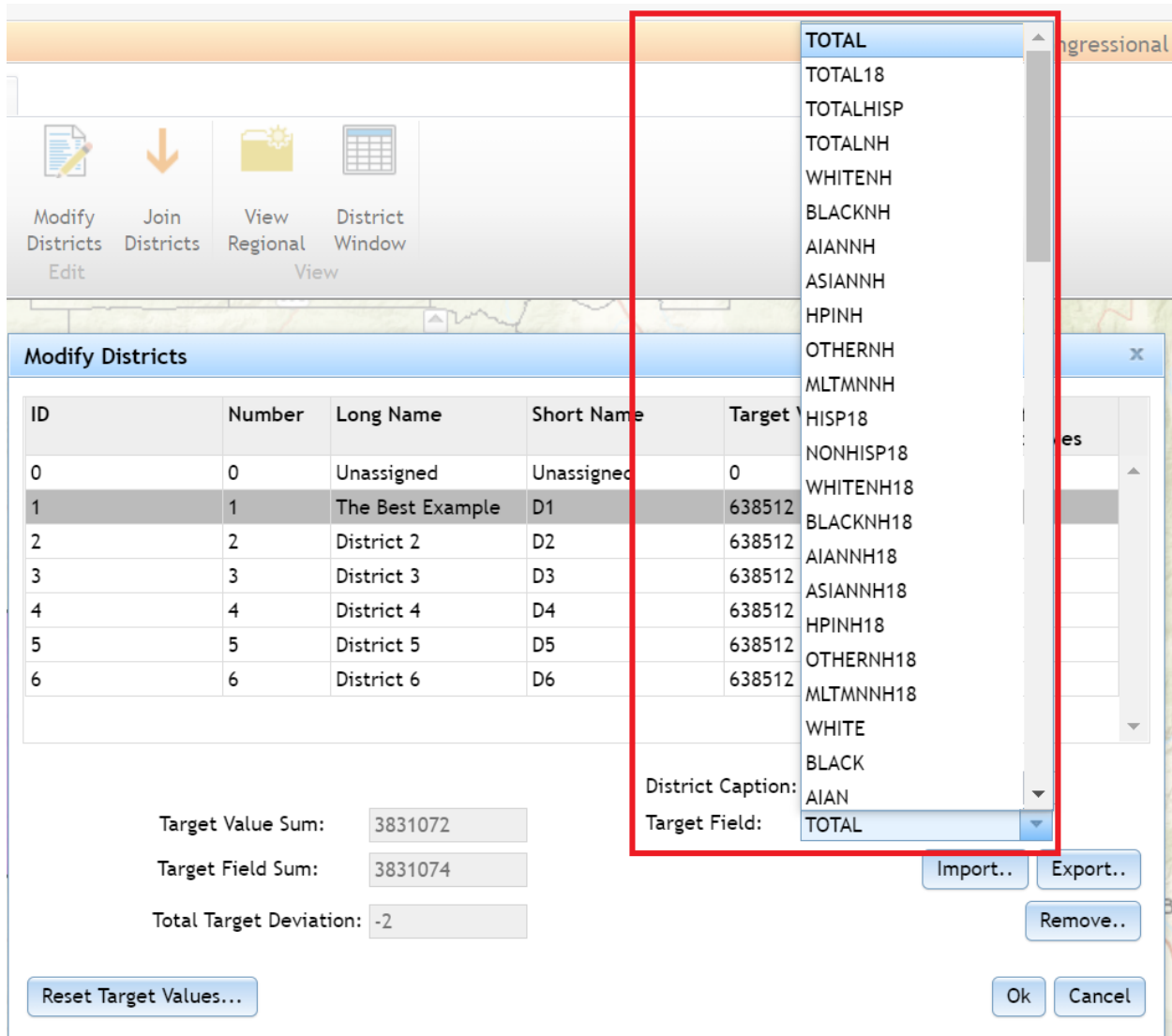
Target Value Sum: 3831072
 Target Field Sum: 3831074
 Total Target Deviation: -2

District Caption: District
 Target Field: District

Options in dropdowns: District, Precinct, Region, Territory, Ward

Buttons: Reset Target Values..., Export.., Remove.., Ok, Cancel

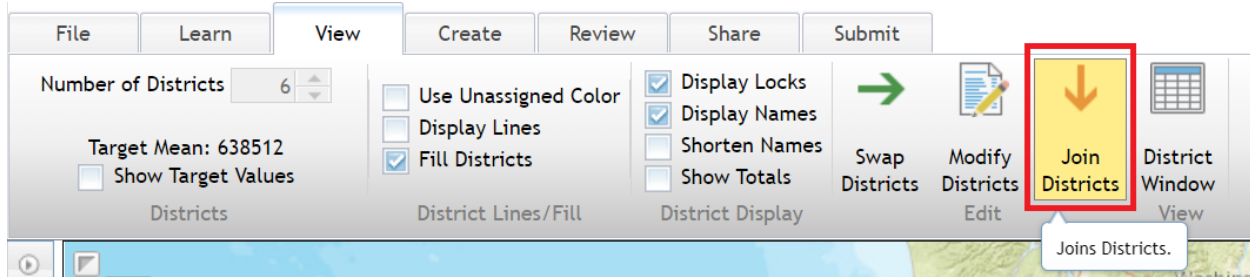
Although you cannot change the target value for your districts, you can change the field the value uses. The default target uses Oregon's total population and divides it by the number of districts. If you want to use another target field instead, such as the state's Hispanic population, click on the Target Field drop-down menu and select the variable you want to use:



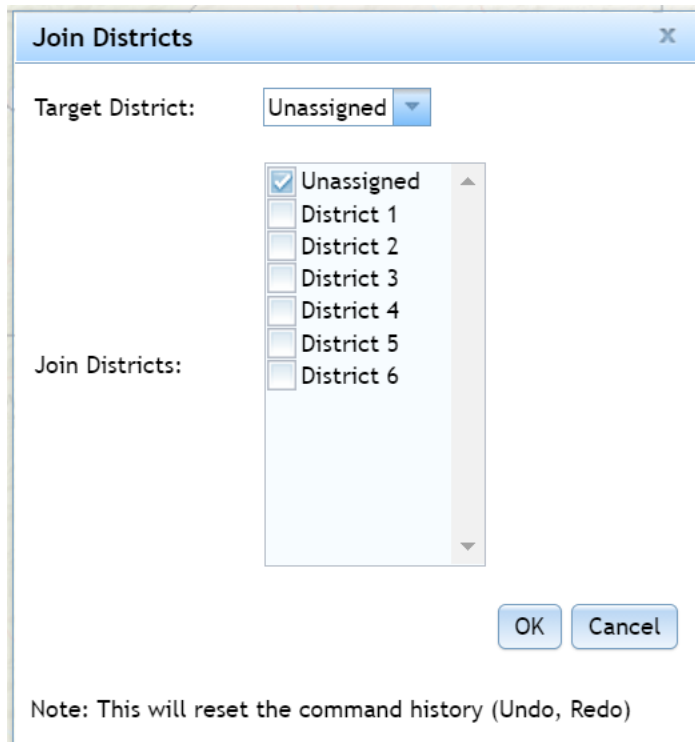
After choosing a different variable, click on the Reset Target Values button in the bottom-left corner of the window to update the table's target value.

Join Districts

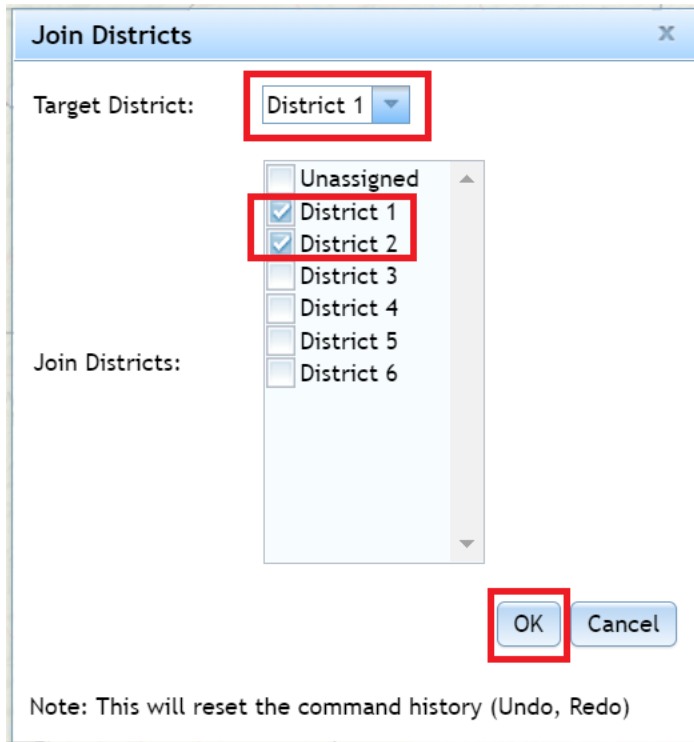
If you click on the Join Districts button in the View ribbon, you can join districts together:



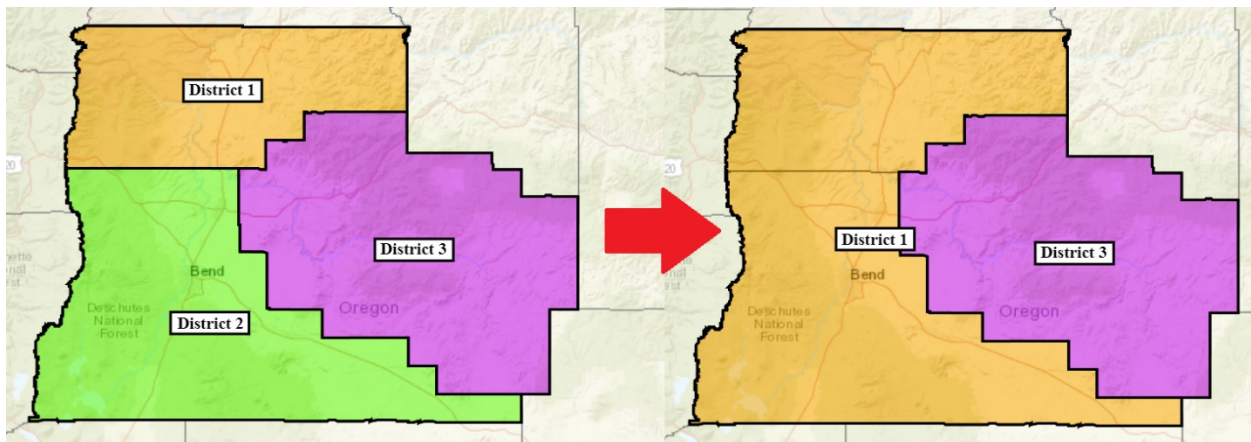
The Join Districts window appears:



To join two or more districts, start by clicking the Target District drop-down menu, and select the district you want to move other districts into. In the Join Districts section, check the boxes next to each district you want to join together, and then click OK:



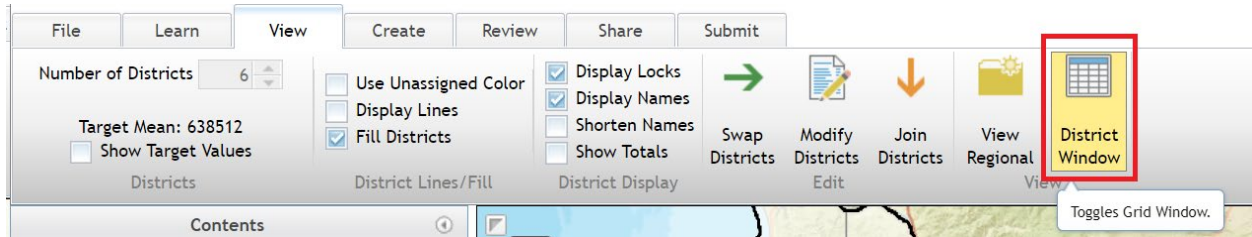
In this example, Districts 1 and 2 are joined together to create a new version of District 1:



District Window

If you want to expand your map view and move the District window out of the way, click on the District Window button in the View ribbon:

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The District window pops out to a new Internet browser window:

District	Color	Hide	Lock	TOTAL	TARGET_DEV	TOTALHISP	TOTALHISP_P	WHITENH	WHITENH_P	BLACKNH	BLACKNH_P	Districts
Unassigned				3,630,643	3,630,643	432,686	11.92	2,834,191	78.06	81,225	2.24	Proposed
District 1				21,720	-616,792	4,195	19.31	13,429	61.83	140	0.64	Assigned
District 2				157,733	-480,779	11,718	7.43	139,470	88.42	930	0.59	Comparison
District 3				20,978	-617,534	1,463	6.97	18,758	89.42	66	0.31	Attributes
District 4				0	-638,512	0	0.00	0	0.00	0	0.00	
District 5				0	-638,512	0	0.00	0	0.00	0	0.00	
District 6				0	-638,512	0	0.00	0	0.00	0	0.00	

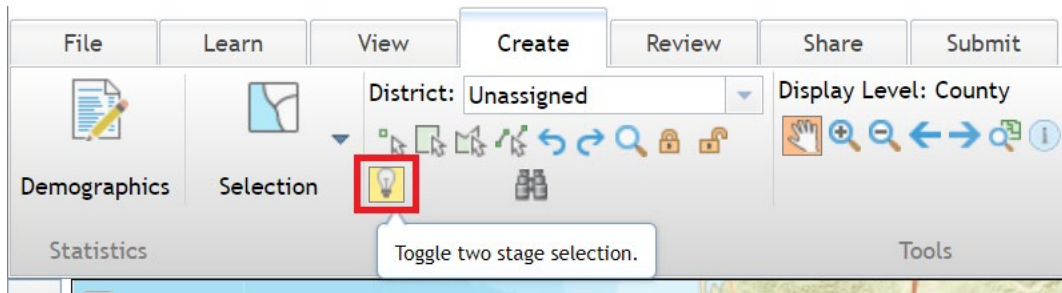
1 of 7 results

When you close this window, the District table returns to its spot below your map view.

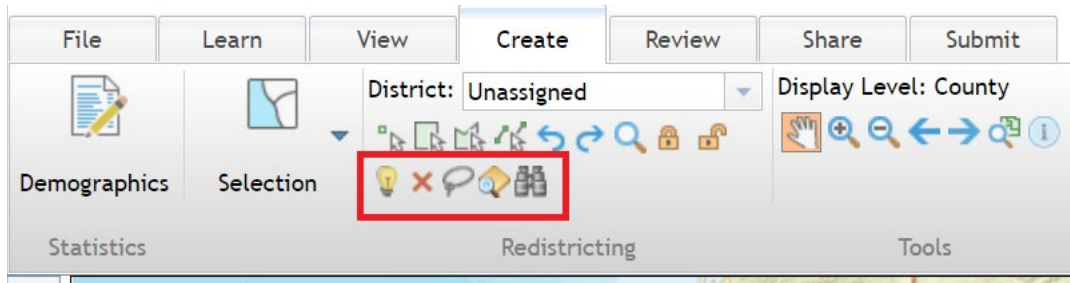
Create Ribbon

Two-Stage Selection

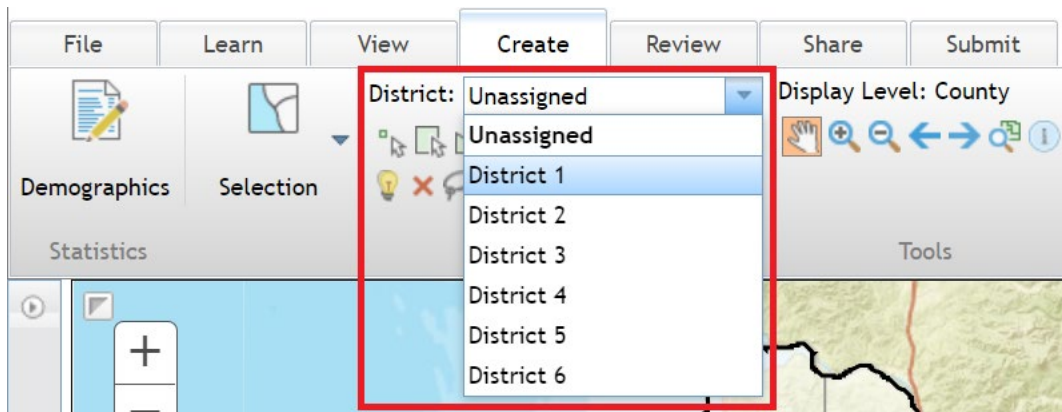
In the Create ribbon is the option to activate Two-Stage selection. This allows you to preview the effects of a change before committing to it. Click the light bulb icon to activate it:



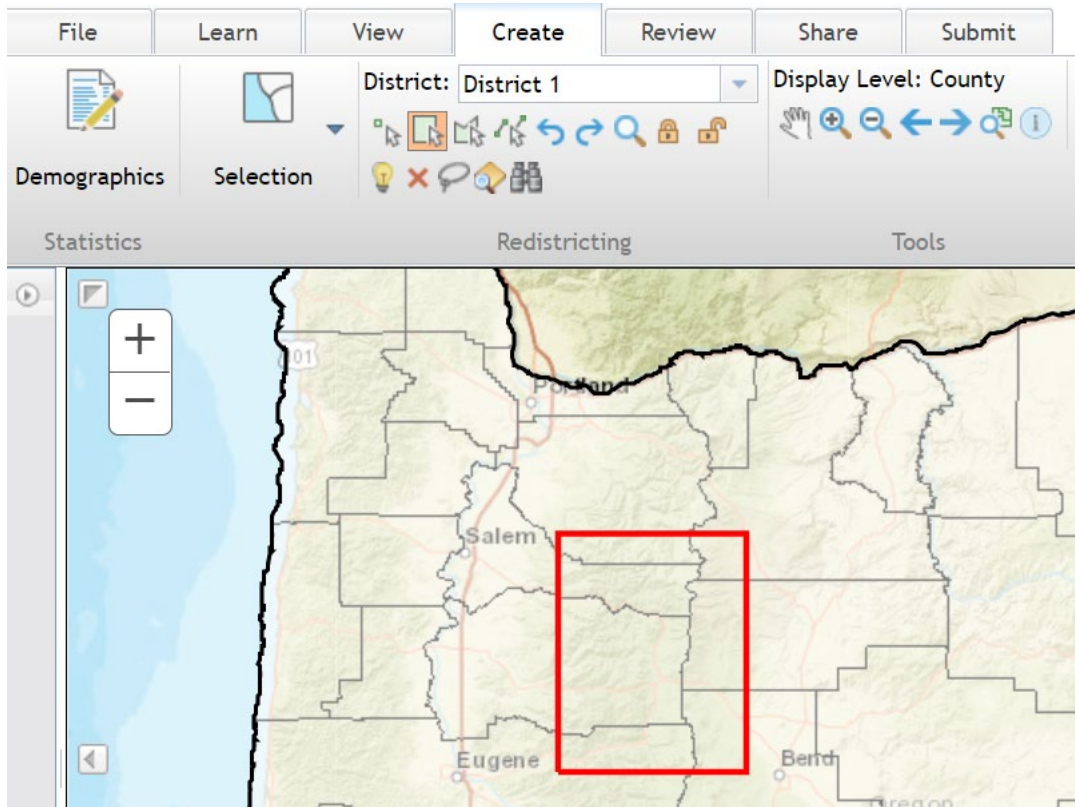
New icons appear next to the light-bulb, which is now lit up in yellow:



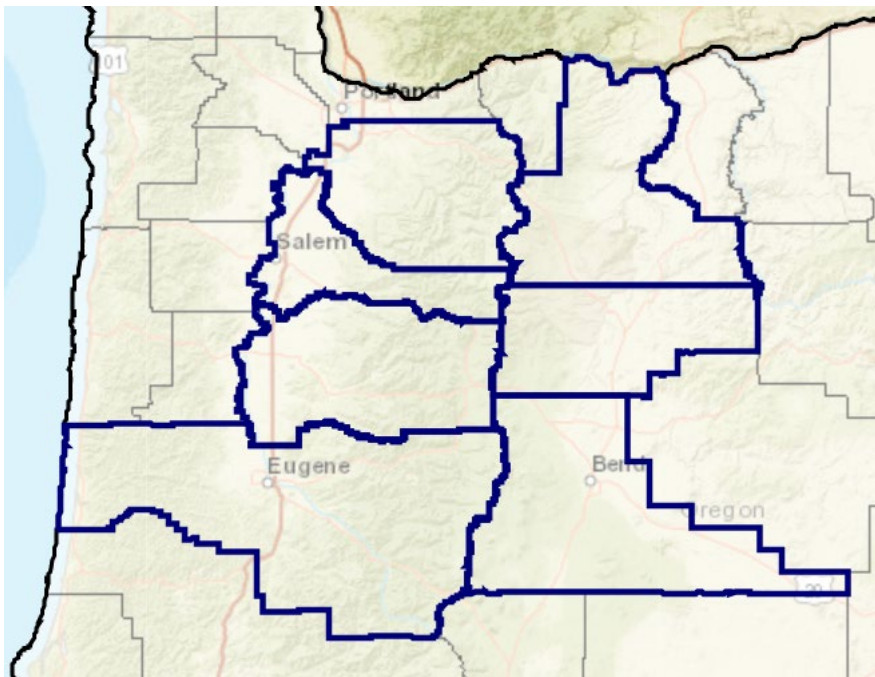
Choose a district you wish to assign geographies to:



Select geographies to assign to your district:

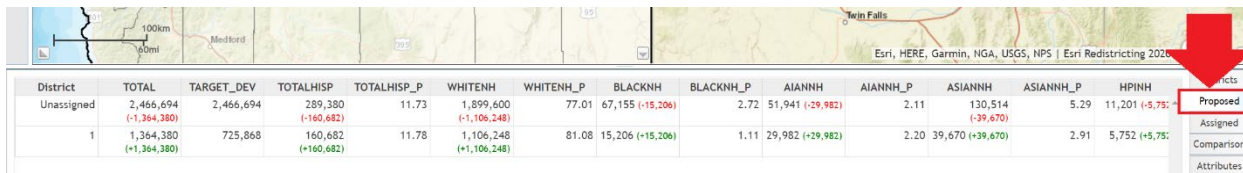


The selected geographies will be outlined now:



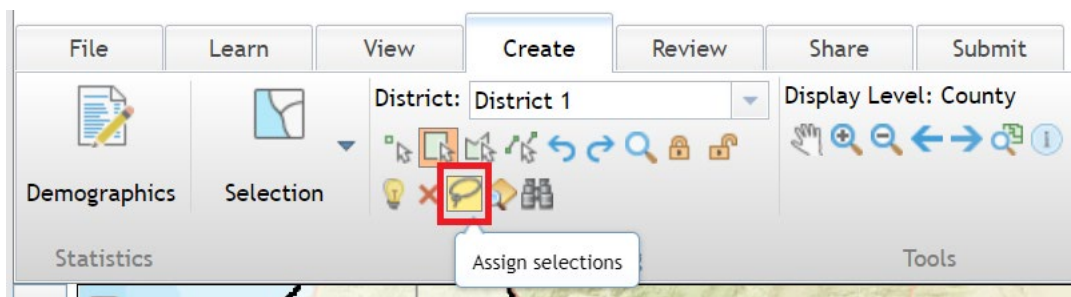
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Go the District Window and click on Proposed. The District Window shows you how things will change if you assign these geographies to District 1. In this example, we are moving counties out of the Unassigned category and into District 1. Therefore, we see that the population numbers for the Unassigned category are in red (decreasing) and the numbers for District 1 are in green (increasing):

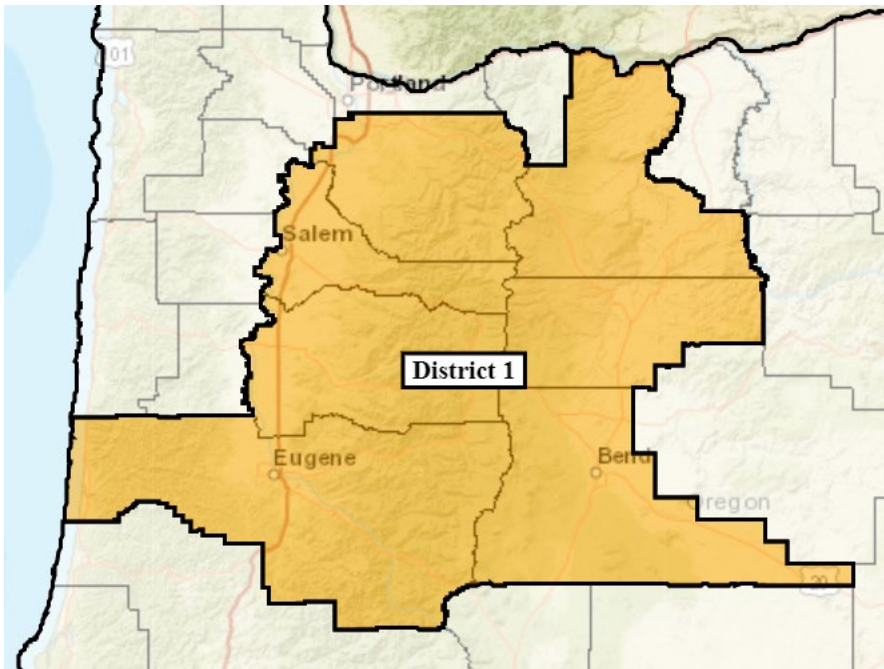


District	TOTAL	TARGET_DEV	TOTALHISP	TOTALHISP_P	WHITENH	WHITENH_P	BLACKNH	BLACKNH_P	AIANNH	AIANNH_P	ASIANNH	ASIANNH_P	HPINH
Unassigned	2,466,694 (-1,364,380)	2,466,694	289,380 (-160,682)	11.73	1,899,600 (-1,106,248)	77.01	67,155 (-15,206)	2.72	51,941 (-29,982)	2.11	130,514 (-39,670)	5.29	11,201 (-5,752)
1	1,364,380 (+1,364,380)	725,868	160,682 (+160,682)	11.78	1,106,248 (+1,106,248)	81.08	15,206 (+15,206)	1.11	29,982 (+29,982)	2.20	39,670 (+39,670)	2.91	5,752 (+5,752)

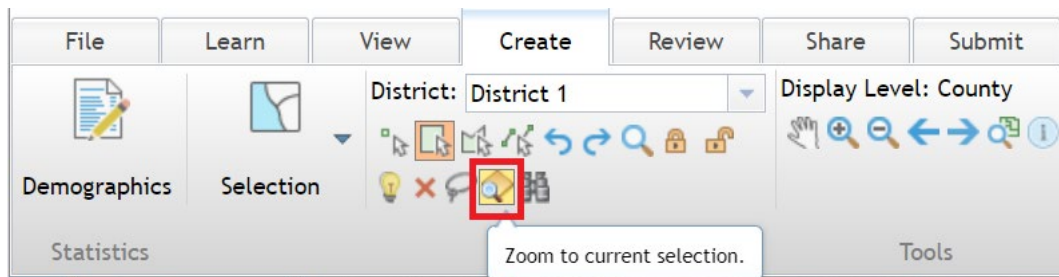
If you want to commit to these changes and assign those counties to District 1, click the Assign selections button (lasso icon):



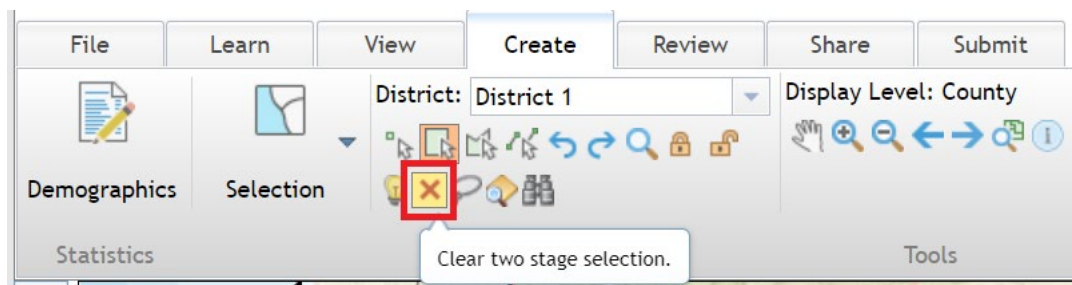
The counties are now assigned to District 1:



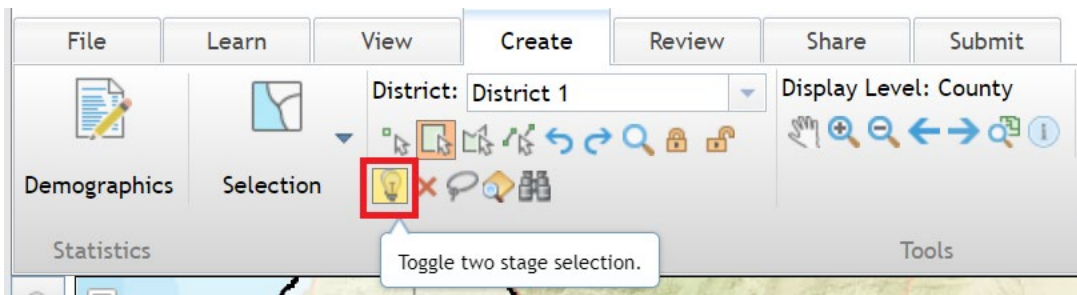
To zoom directly to your selection on the map, click the Zoom to current selection icon:



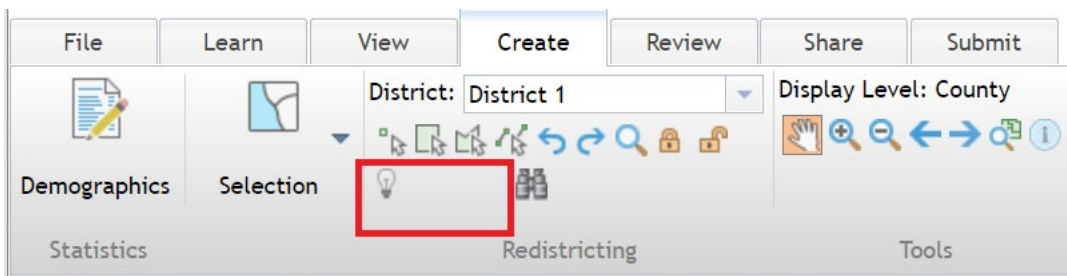
If you decide not to assign the districts, you can clear your selection by clicking the red X icon:



If you want to exit the two-stage selection process and go back to using the default one-stage system (selections are assigned immediately in the one-stage system), click the light bulb icon again to deactivate two-stage selection:



The light bulb turns off, and the two-stage tools disappear:



In this example, we only worked with one district, and we only took geographies out of the Unassigned category.

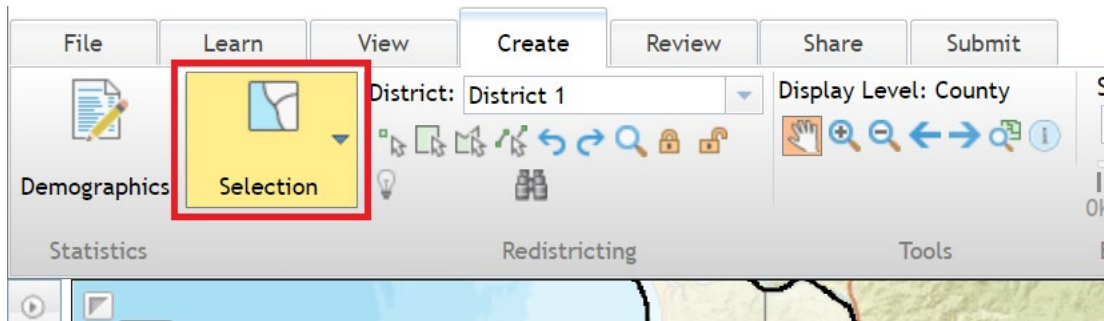
However, you can work with multiple districts at once during two-stage selection. To do this, just add geographies to one or more other districts before using the Assign selections function. The Proposed section of your District Window will show numbers for all the districts you propose changing.

You can also propose taking geographies out of or putting them into any district you want, including the Unassigned category. For example, you could propose moving geographies from District 2 into District 5 at the same time you propose moving geographies from District 4 back into the Unassigned category.

Selections

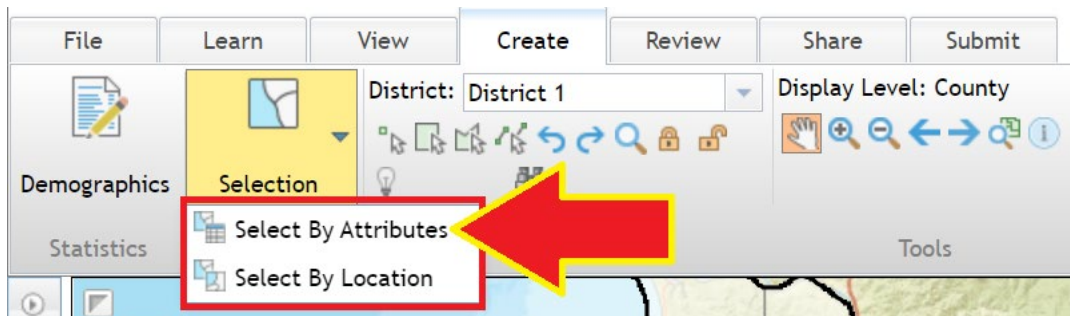
You can use selection tools to find geographies that meet certain criteria and then add those geographies to your districts.

First, choose a District to edit. To use the selection tools, click on the Selection button in the Create ribbon:



Selecting by Attribute

When you click on the button, a menu appears with two options. Click on the Select By Attributes option:



The Select Features by Attributes window appears:

Select Features by Attributes

Data Layer: County

Fields:

AIAN
AIAN18
AIAN18P
AIANNH
AIANNH18
AIANNH18P
AIANNHP
AIANP

Get Sample Values

= <> > >= < <= like and or not

Expression:

Clear
Load...
Save...

Note: Feature selection is restricted to the current map view.

Apply the Selection Results to Unassigned

☒ One Stage: Auto assign to the active district
☐ Two Stage: Preview results on the map before assigning

OK Cancel

The top box specifies which geography type you are currently selecting. In this example, “Data Layer: County” indicates county level geography will be selected. To change this, zoom to a different geography type before opening the selection tool.

The Fields box on the left includes a full list of all data variables in the application. For this example, scroll down to the TOTAL variable (for total population) and double click on it. The TOTAL name will show up in the Expression box:

Select Features by Attributes

Data Layer: County

Fields:

SHAPE_Length
STATE
TOTAL
TOTAL18
TOTALHISP
TOTALHISPP
TOTALNH
TOTALNMB

Get Sample Values

= <> > >= < <= like and or not

Expression:
TOTAL

Clear
Load...
Save...

Note: Feature selection is restricted to the current map view.

Apply the Selection Results to Unassigned

☒ One Stage: Auto assign to the active district
☐ Two Stage: Preview results on the map before assigning

OK Cancel

Click on the Get Sample Values button. The box underneath it will populate with numbers. Each number is the total population of one of the counties (the box populates with actual numbers from the variable you selected and the geography type in the data layer):

Select Features by Attributes

Data Layer: County

Fields:

Field Name	Value
SHAPE_Length	1441
STATE	1765
TOTAL	1871
TOTAL18	7008
TOTALHISP	7422
TOTALHISPP	7445
TOTALNH	7895
TOTALNMB	11173

Get Sample Values

Expression:

TOTAL

Clear

Load...

Save...

Note: Feature selection is restricted to the current map view.

Apply the Selection Results to Unassigned

☒ One Stage: Auto assign to the active district

☐ Two Stage: Preview results on the map before assigning

OK Cancel

Now click on the > (greater than) button. The > symbol appears after TOTAL in the Expression box:

Select Features by Attributes

Data Layer: County

Fields:

Fields	Get Sample Values
SHAPE_Length	1441
STATE	1765
TOTAL	1871
TOTAL18	7008
TOTALHISP	7422
TOTALHISPP	7445
TOTALNH	7895
TOTALNHB	11173

Expression:

TOTAL >

Clear

Load...

Save...

Note: Feature selection is restricted to the current map view.

Apply the Selection Results to Unassigned

☒ One Stage: Auto assign to the active district
☐ Two Stage: Preview results on the map before assigning

OK Cancel

Now click on the Expression box. After the > symbol, manually type in the number 50000:

Expression:

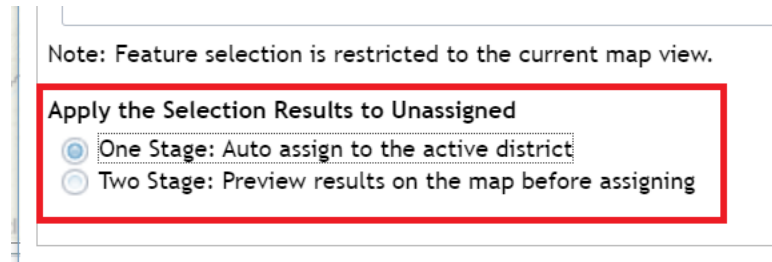
TOTAL > 50000

Note: Feature selection is restricted to the current map view.

The expression "TOTAL > 50000" tells the application to select counties with a total population greater than 50,000. Geographies will be

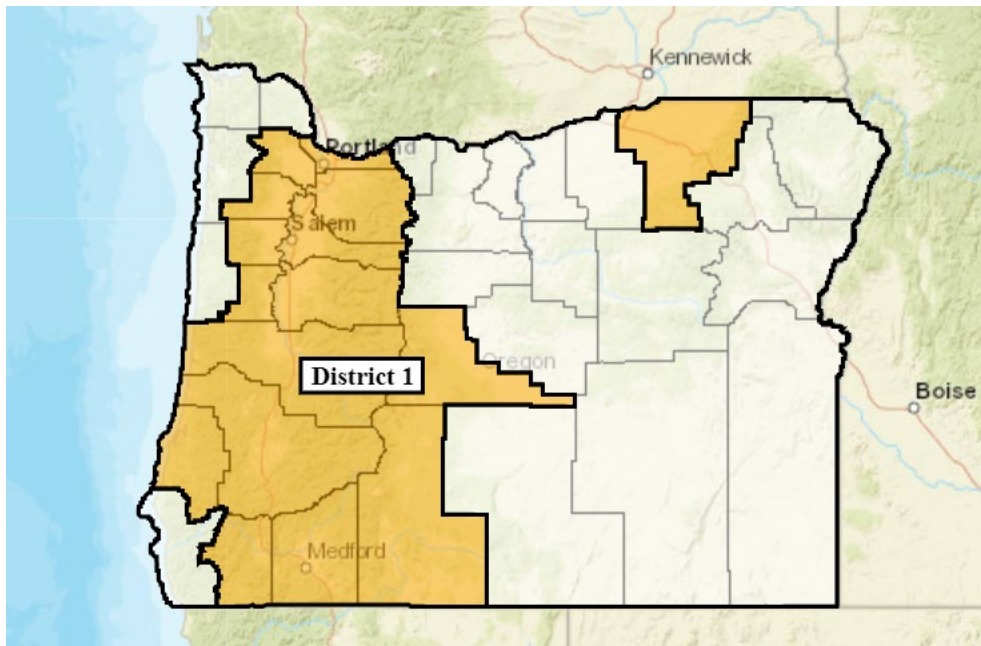
examined to find any that match this criteria. Be aware that only geographies currently visible on your map will be examined, so if you want to look for geographies in a different area, you will need to pan or zoom to a different part of the map before using the selection function.

At the bottom of the window are two options for how your selection is applied to your district:

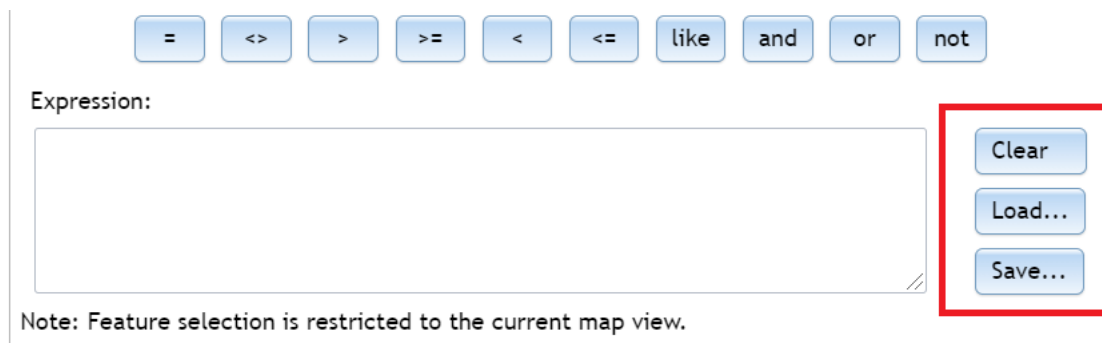


If the One Stage option is selected, the geographies will automatically be assigned to your district once you make your selection. If Two Stage is selected, the geographies will become proposed changes just like in regular Two-Stage selection mode (discussed earlier).

Once you have set your selection options, click the OK button in the bottom-right corner of the window. In this example, counties with populations above 50,000 are added to District 1:



The Select Features by Attributes window has some other options you can use. To the right of the Expression box are buttons for Clear, Load, and Save:



The Clear button clears everything out of the Expression box.

Clicking the Load button opens up your standard open file window. You can choose a file with a pre-made SQL expression, and it will be added to the Expression box (an SQL expression is what we call “TOTAL > 50000”, for example).

You can also save your expression by clicking the Save button. This can be useful if you know you will reuse an expression multiple times or if you want to keep track of expressions you use.

The function buttons above the Expression box include the different operators you can use in an expression:



These operators function the same way as they do in other SQL queries or in other GIS programs. Text and number values are both usable in expressions. These operators are defined below:

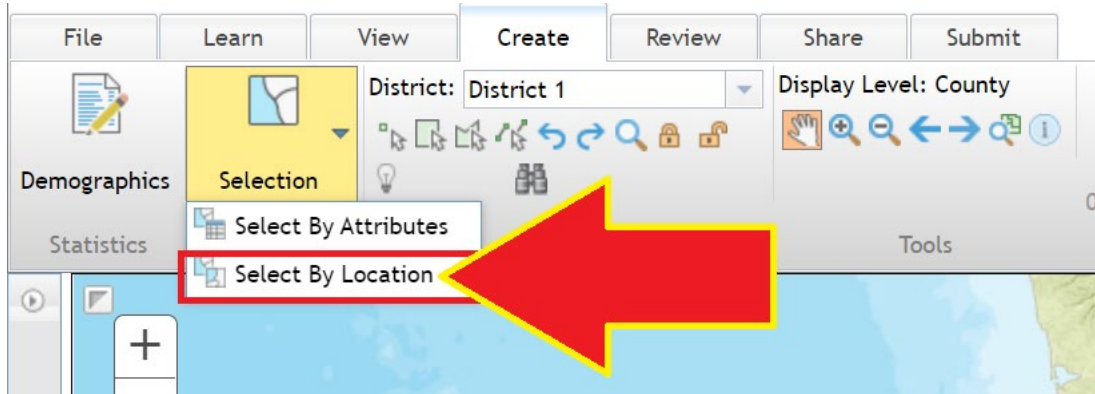
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=	Equal to. <i>TOTAL = 50000</i> looks for geographies where TOTAL is equal to 50,000.
<>	Not equal to. <i>TOTAL <> 50000</i> looks for geographies where TOTAL is <i>not</i> equal to 50,000.
>	Greater than. <i>TOTAL > 50000</i> looks for geographies where TOTAL is more than 50,000.
>=	Greater than or equal to. <i>TOTAL >= 50000</i> looks for geographies where TOTAL is more than 50,000 or equal to 50,000.
<	Less than. <i>TOTAL < 50000</i> looks for geographies where TOTAL is less than 50,000.
<=	Less than or equal to. <i>TOTAL <= 50000</i> looks for geographies where TOTAL is less than 50,000 or equal to 50,000.
Like	Like. COUNTY_NAME LIKE 'J%' looks for geographies where the county name starts with the letter J.
And	And. <i>TOTAL > 50000 AND TOTALNH > 50000</i> looks for geographies where TOTAL is greater than 50,000 and TOTALNH is also greater than 50,000. Any geographies selected will meet all conditions in an 'and' statement.
Or	Or. <i>TOTAL < 10000 OR TOTAL > 50000</i> looks for geographies where TOTAL is less than 10,000 or greater than 50,000. Any selected geography meets at least one condition in an 'or' expression.
Not	Not. <i>NOT TOTAL > 50000</i> looks for geographies where TOTAL is <i>not</i> greater than 50,000. This example provides the same result as <i>TOTAL <= 50000</i> .
+ - * /	Add, subtract, multiply, and divide. These operators don't have buttons in the window, but you can still type and use them in more complex expressions. <i>TOTAL > (TOTALNH + 50)</i> looks for geographies where TOTAL is greater than the sum of TOTALNH + 50.

Selecting by Location

You can also perform spatial queries. Note that if you are familiar with desktop ArcGIS software, this tool works somewhat differently than the function you may be used to.

Be sure you still have a district selected for editing. Then choose the Select by Location tool.



The Select Features by Location window appears:

Select Features by Location

Data Layer: County

Query Layer: none

Spatial Relation: contains

☐ Filter by Attribute

☐ Filter Spatially

Data Layer: County

☐ Filter by Attribute

Note: Feature selection is restricted to the current map view.

Apply the Selection Results to Unassigned

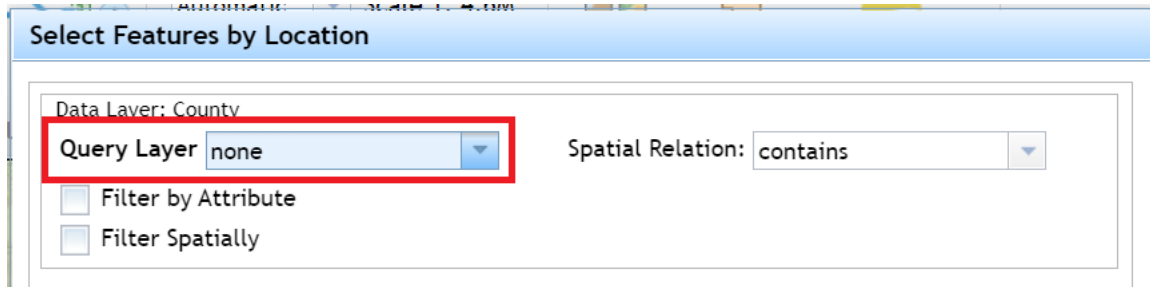
☒ One Stage: Auto assign to the active district

☐ Two Stage: Preview results on the map before assigning

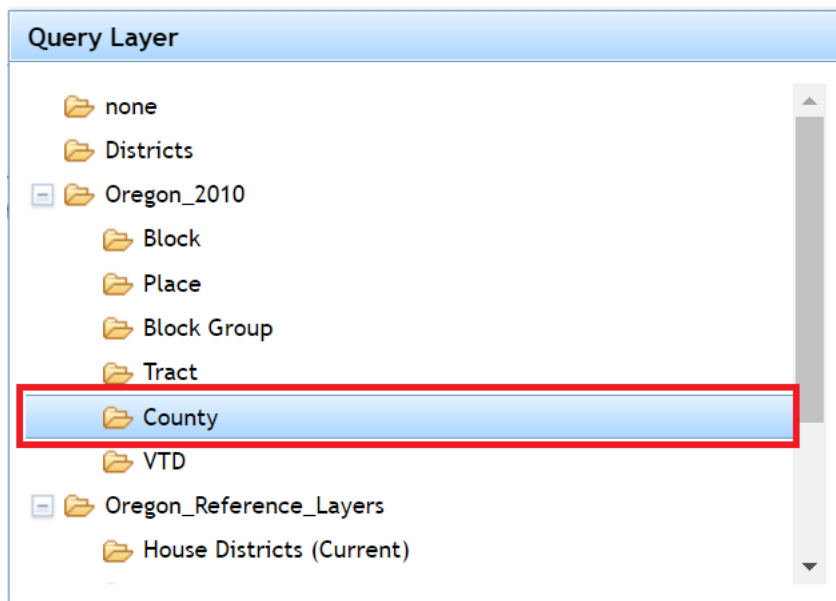
OK Cancel

In this example, we're going to select counties with populations under 100,000 along a line we draw on the map.

The first step is to choose a data layer to perform your selection on. Click on the Query Layer drop-down menu:



The Query Layer window appears. The layers you can select from appear in the list. For this example, choose County:



Now, choose the kind of spatial relationship you want. In this example, we keep the default “contains” relationship, which means geographies “contained” in what we draw will be selected:

Select Features by Location

Data Layer: County

Query Layer

County

☐ Filter by Attribute
 ☐ Filter Spatially

Spatial Relation:

contains

contains

crosses

intersects

overlaps

touches

within

Data Layer: County

☐ Filter by Attribute

Note: Feature selection is restricted to the current map view.

Apply the Selection Results to District 1

☒ One Stage: Auto assign to the active district
 ☐ Two Stage: Preview results on the map before assigning

Because we're limiting our selection to counties with populations less than 100,000, we need to specify this. Click on the Filter by Attribute checkbox. The Fields column populates, and you can build an expression just like with the Select by Attribute tool discussed earlier. In this case, type in the expression `TOTAL < 100000` to tell the application we want counties with total populations below 100,000:

Data Layer: County

Query Layer: County Spatial Relation: contains

☒ Filter by Attribute

Fields:

STATE
TOTAL
TOTAL18
TOTALHISP
TOTALHISPP

Get Sample Values

= <> > >= < <= like and or not

Expression:

TOTAL < 100000

Clear
Load...
Save...

☐ Filter Spatially

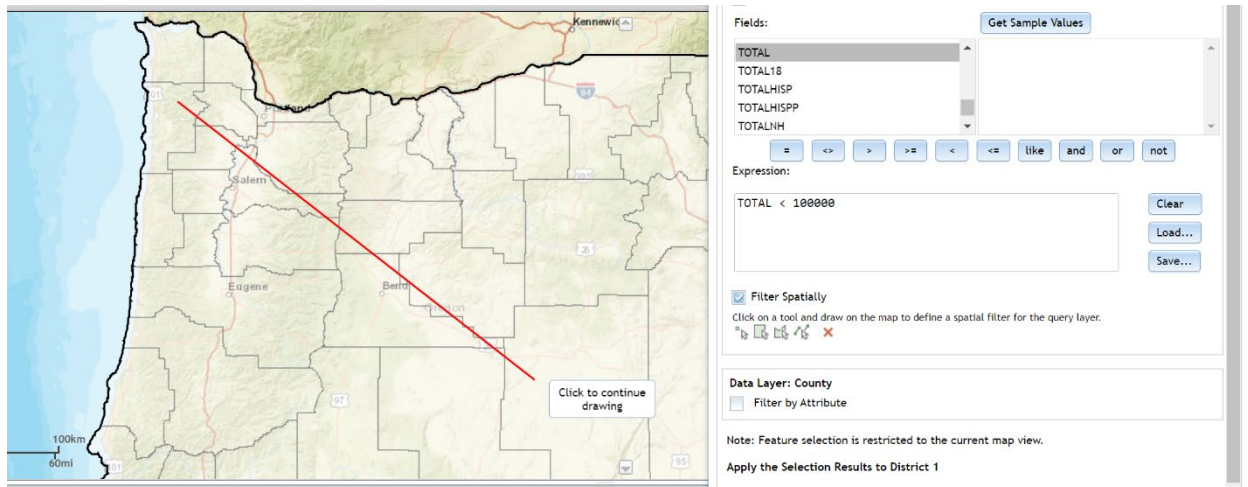
Now we need to specify the spatial filter. Click on the Filter Spatially checkbox. The selection tools have the same kinds of selection options that the selection tools in the Create ribbon have. For this example, choose the “Select geographies by polyline” option:

☒ Filter Spatially

Click on a tool and draw on the map to define a spatial filter for the query layer.

Select geographies by polyline.

Draw a line on the map:



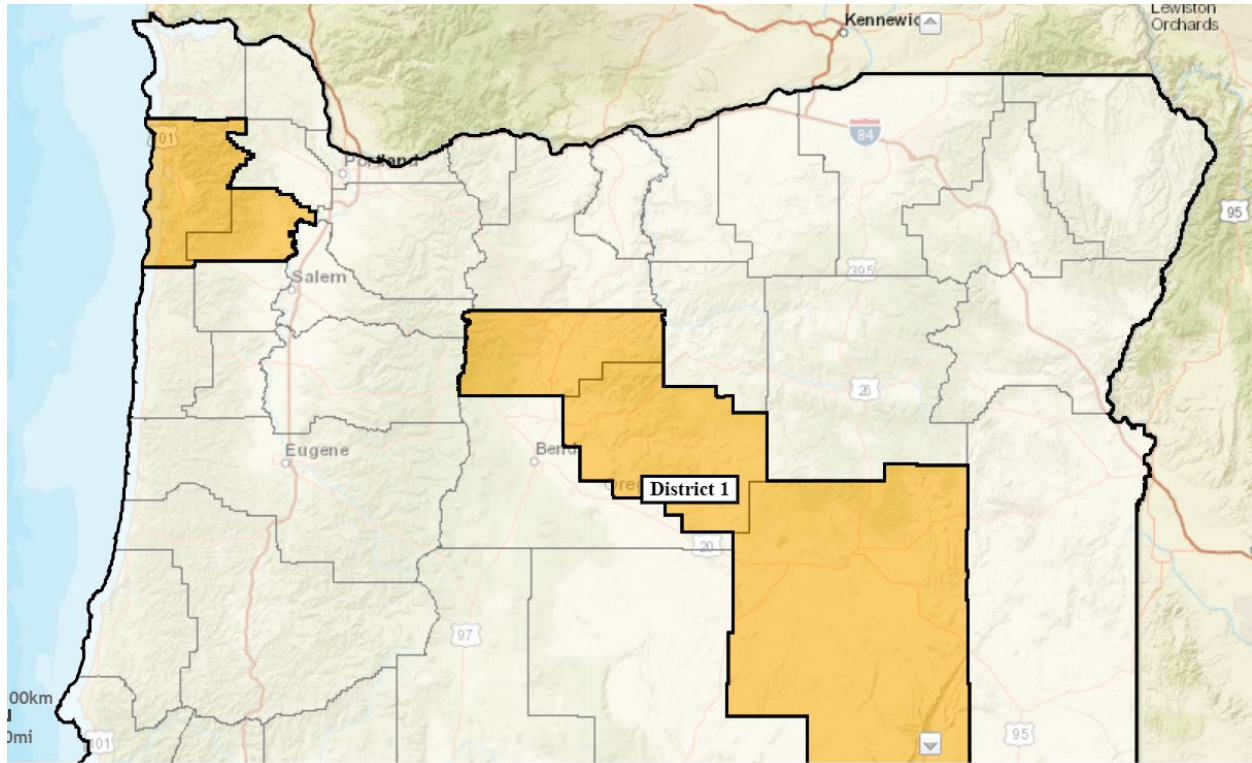
If you make a mistake, you can click the red X.

The selection results can be added to a district using either one or two-stage options, which you choose from at the bottom of the Select Features by Location window:

Apply the Selection Results to District 1

- ☒ One Stage: Auto assign to the active district
- ☐ Two Stage: Preview results on the map before assigning

Once you're satisfied with your selection options, click the OK button. Counties along your line with populations under 100,000 are now assigned to your district:



Note that only geographies currently within your field of view on your map (the extent) will be selected using this function. If you want to select from a different area, you will need to zoom or pan the map to that area before using the selection tool.

Spatial Relationships

In the Select Features by Location window, there are six spatial relationship options, described below:

Select Features by Location

Data Layer: County
Query Layer none
☐ Filter by Attribute
☐ Filter Spatially

Data Layer: County
☐ Filter by Attribute

Spatial Relation: contains
contains
crosses
intersects
overlaps
touches
within

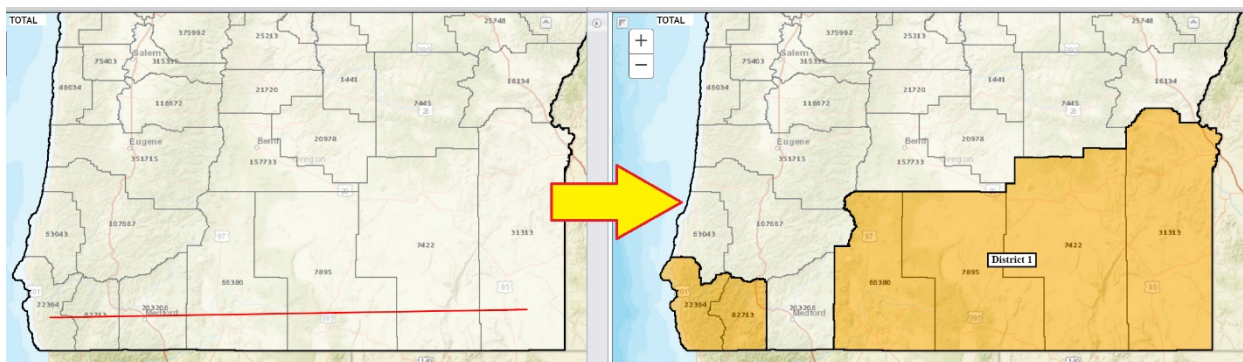
Note: Feature selection is restricted to the current map view.

Apply the Selection Results to District 1

☒ One Stage: Auto assign to the active district
☐ Two Stage: Preview results on the map before assigning

Contains

Geographies containing your drawing are selected. Continuing with the example from the previous section, this selects counties with populations under 100,000 which contain our line.



In this second example we use the current Congressional districts. The parameters shown below in the Select Features by Location window allow us to find counties with less than 100,000 people currently assigned to District 2 and then reassign them to the current district.

These options in the top portion of the window tell the application to search District 2:

Select Features by Location

Data Layer: County

Query Layer: Districts Spatial Relation: contains

☒ Filter by Attribute

Fields:

Field Name	Value
BLACK18	0
BLACKNH	1
BLACKNH18	2
DISTRICT	3
G_AIAN	4

Get Sample Values

= <> > >= < <= like and or not

Expression:

DISTRICT = 2

Clear Load... Save...

☐ Filter Spatially

These options at the bottom of the window tell the application to find counties with fewer than 100,000 people:

Data Layer: County

☒ **Filter by Attribute**

Fields:

STATE
TOTAL
TOTAL18
TOTALHISP
TOTALHISPP

Get Sample Values

=

<>

>

>=

<

<=

like

and

or

not

Expression:

TOTAL < 100000

Clear

Load...

Save...

Note: Feature selection is restricted to the current map view.

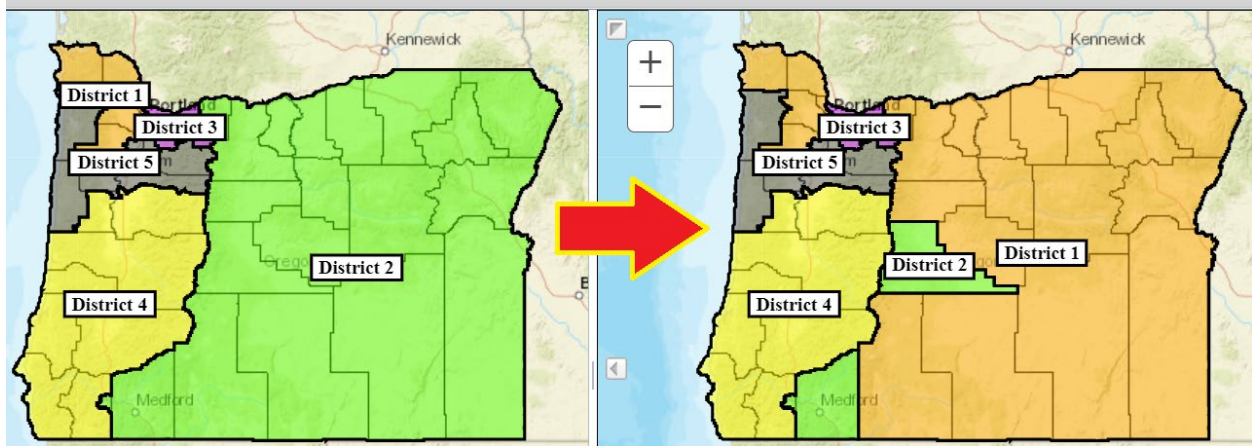
Apply the Selection Results to District 1

☒ One Stage: Auto assign to the active district
☐ Two Stage: Preview results on the map before assigning

OK

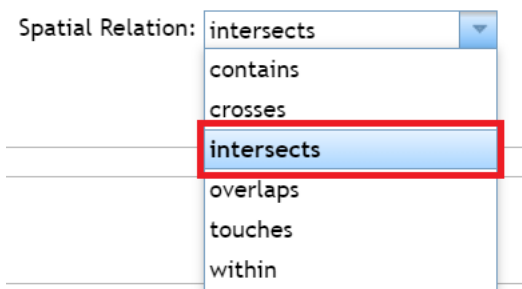
Cancel

The result of this selection is shown below. Counties with less than 100,000 people which are contained by District 2 are reassigned to the current district (District 1 in this example):

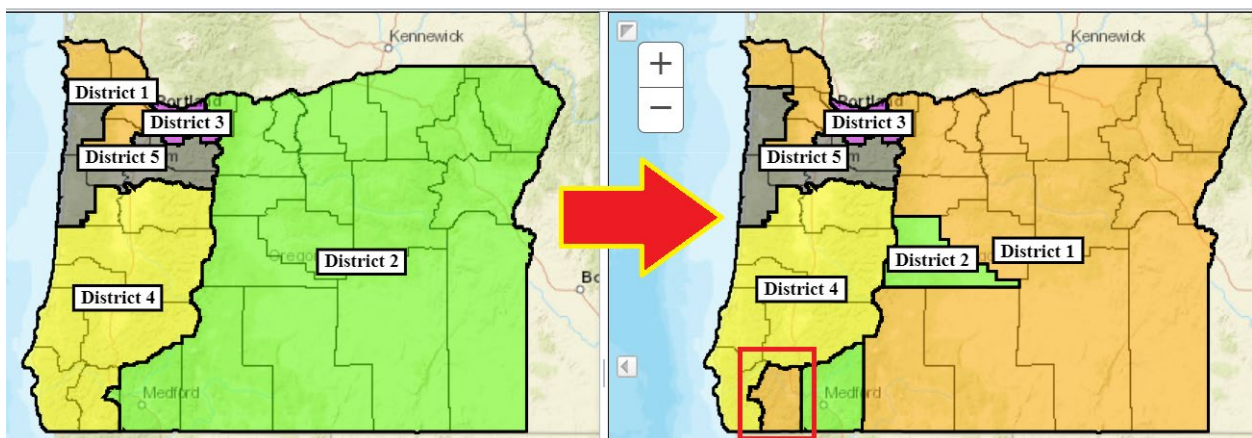


Intersects

If we use the same criteria as in the Contains example above, but we use the Intersects option instead, we get a slightly different result:



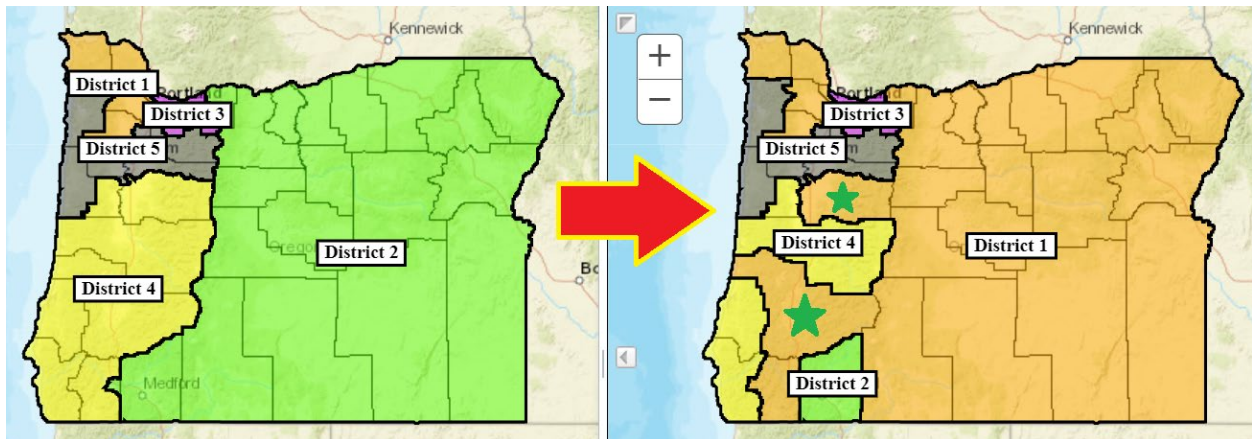
Note that using intersects instead of contains adds Josephine County (outlined by the red box) to District 1:



When we used the contains option, Josephine did not get selected. This is because Josephine is not wholly contained by District 2.

Josephine is, however, partially within District 2. It *intersects* District 2. Therefore, when we use the intersect option, it is included in our selection.

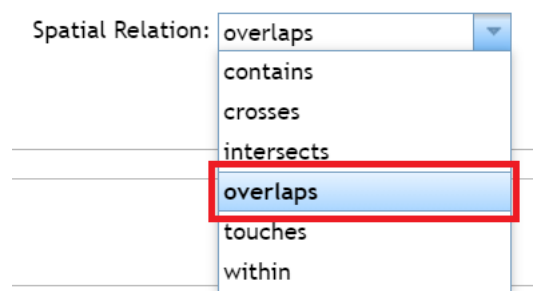
Now, watch how the result changes if we use 200,000 instead of 100,000 as our population threshold:



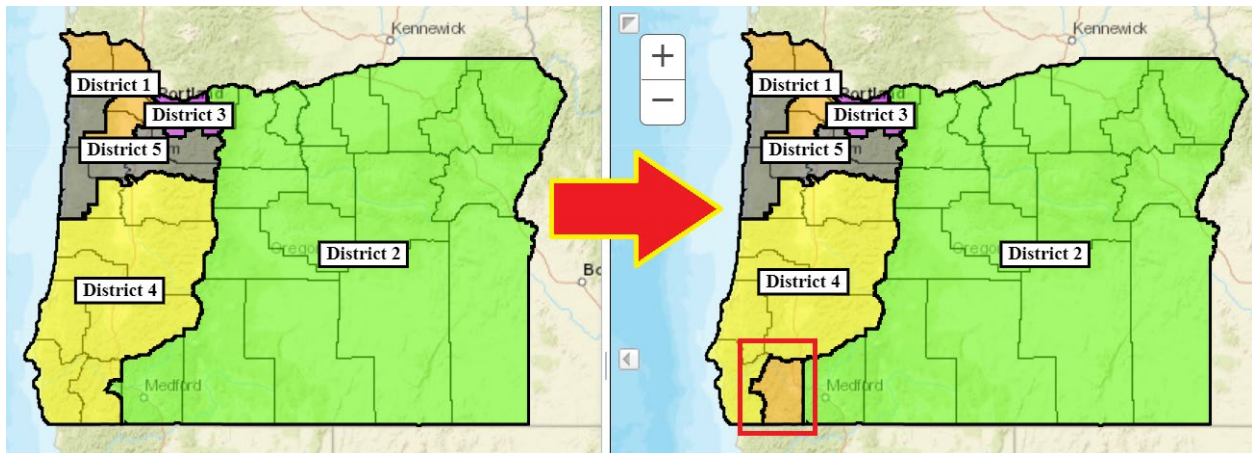
This time, Douglas and Linn Counties (shown with green stars) are also included in the selection. They both touch District 2. Because they touch District 2, the application views them as *intersecting* it, and they are included in the selection.

Overlaps

The overlaps option provides another way to select geographies:



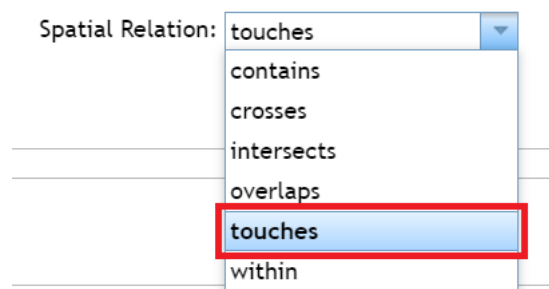
In this example, we use the overlaps option and specify counties with populations under 100,000:



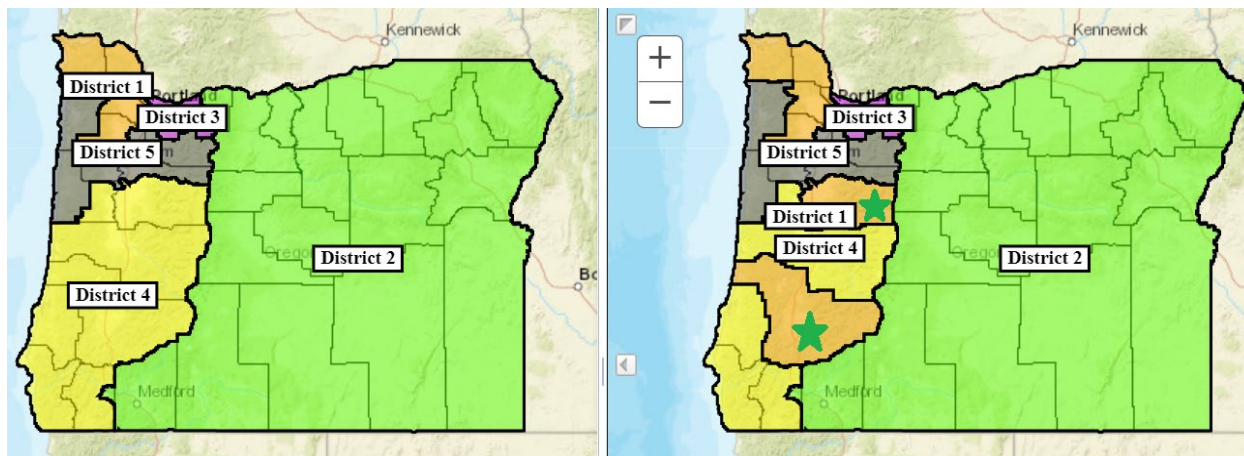
This option only selects Josephine County (shown with the red box around it). Part of District 2 *overlaps* Josephine County, so it is selected and added to District 1 in this example. Since other counties only touch or are completely contained by District 2, they do not get added.

Touches

Now let's try the touches option:



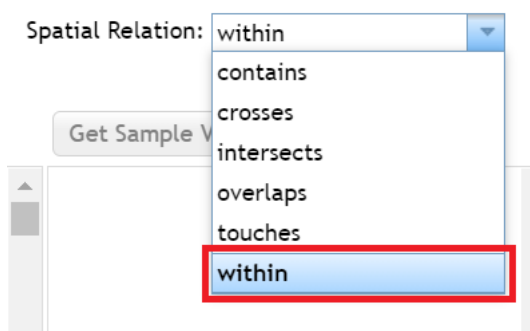
If we use the 200,000 population threshold, only counties with less than 200,000 people that *touch* District 2 will be selected:



In this case, Douglas and Linn (shown with green stars) are added to District 1 because they touch – but are not inside – District 2. Neither of those counties have any portion of their area inside District 2. Other counties, like Josephine, are partially within District 2. Therefore, the *touches* spatial relationship does not include them in this selection.

Within

For the next example, we will use the within option:



For the Query Layer, choose the Place layer in the Oregon_2010 folder, and click the Filter by Attribute checkbox. Create the query NAME10 = 'The Dalles':

Select Features by Location

Data Layer: County

Query Layer Place

☒ Filter by Attribute

Spatial Relation: within

Fields:

MLTMNNHP

MLTMNP

NAME10

NONHISP18

NONHISP18P

Tetherow

The Dalles

Three Rivers

Tigard

Tillamook

=

<>

>

>=

<

<=

like

and

or

not

Expression:

NAME10 = 'The Dalles'

Clear

Load...

Save...

☐ Filter Spatially

Data Layer: County

☐ Filter by Attribute

Note: Feature selection is restricted to the current map view.

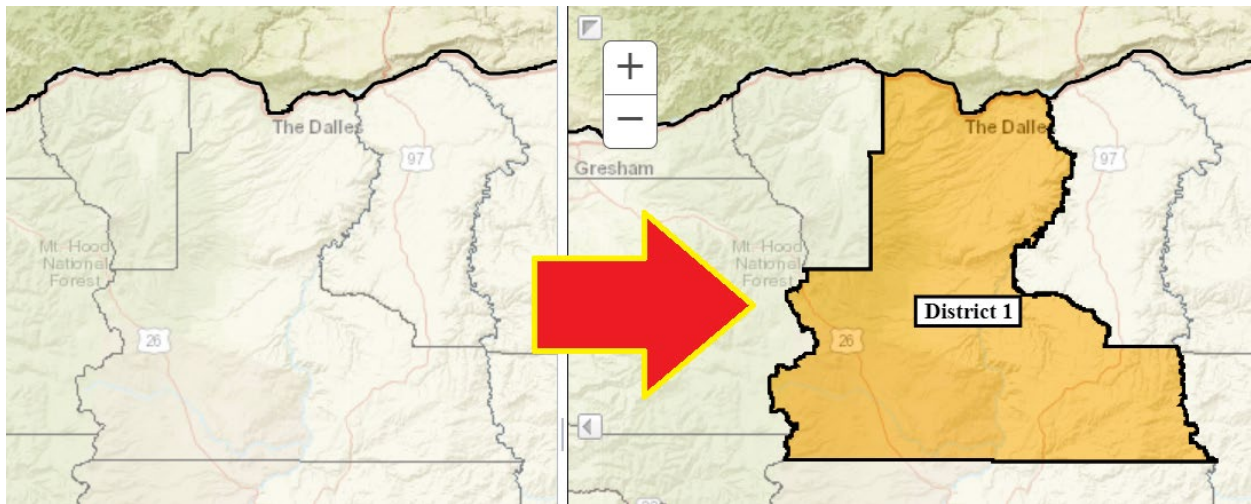
Apply the Selection Results to District 1

☒ One Stage: Auto assign to the active district
 ☐ Two Stage: Preview results on the map before assigning

OK

Cancel

This queries the place layer for the city of The Dalles. Since The Dalles is *within* Wasco County, that county is selected and added to District 1:

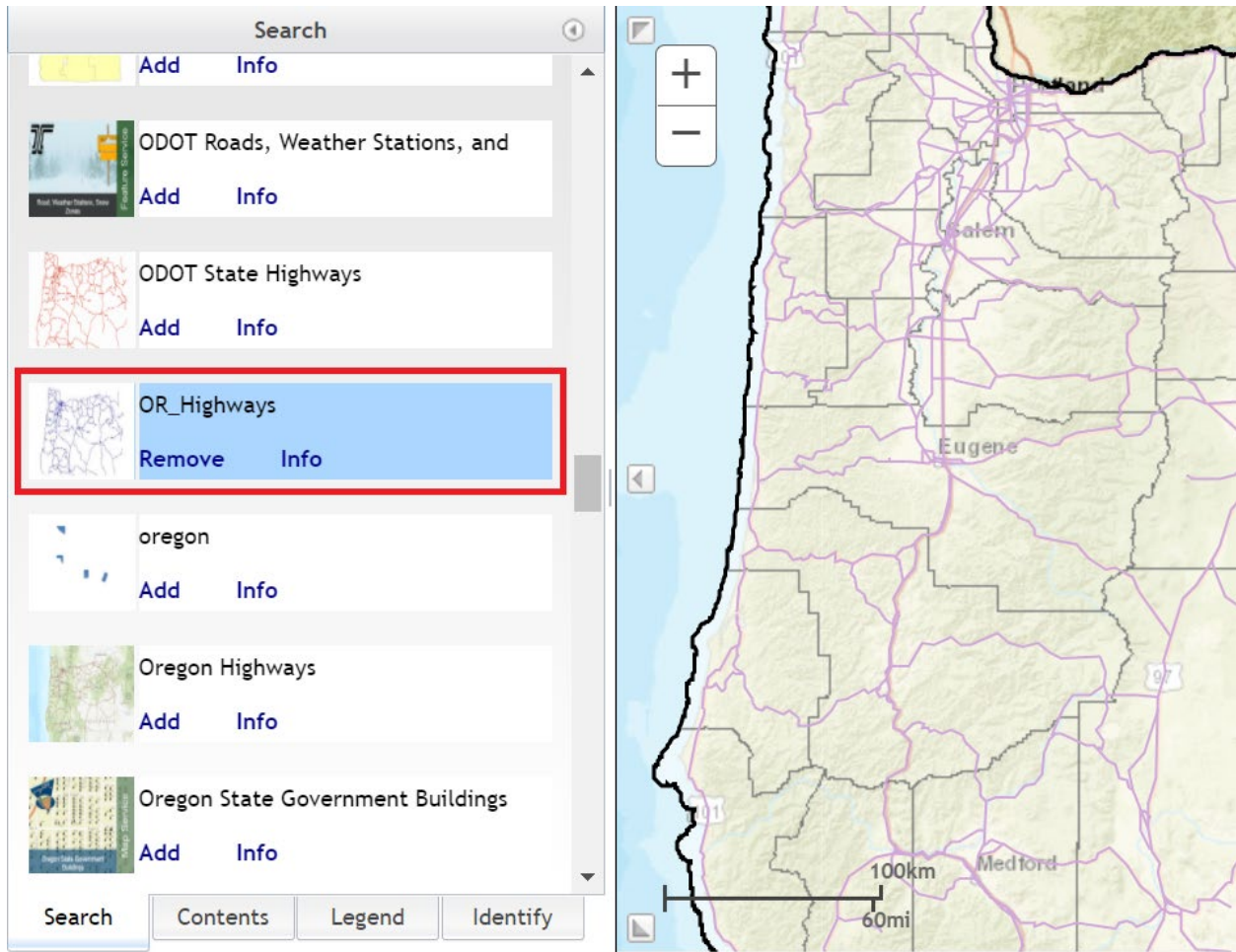


Note that this tool works on locations completely within a single geography. The Dalles is entirely within Wasco County and does not have any area in adjacent counties.

However, the city of Salem is within both Marion and Polk Counties, so the within option does not select either county in that case. To add those counties, you would need to use the overlaps option instead.

Crosses

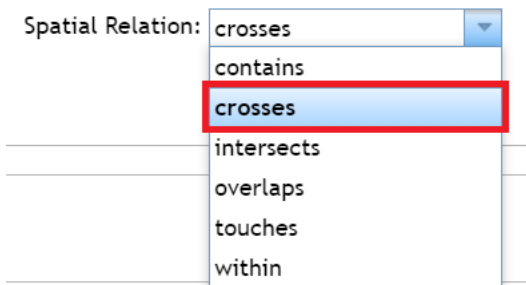
For the crosses option, use the Search panel to add a road layer to your map. If you search for “Oregon highway,” the OR_Highways layer should appear in the search results. Click Add (or another layer you prefer) to add it to the map:



In the Select Features by Location window, click on the Query Layer drop-down menu. The OR_Highways layer should be an option; click on it to make it the Query Layer. If this, or another layer you added, does *not* appear in this list, then it cannot be queried and you will have to add a different layer to your map.



Make sure the crosses spatial relation option is chosen:



Check the Filter by Attribute checkbox, and add the query HWY_SYMBOL = 5. The query will look for Interstate 5:

Data Layer: County

Query Layer: Spatial Relation:

☒ Filter by Attribute

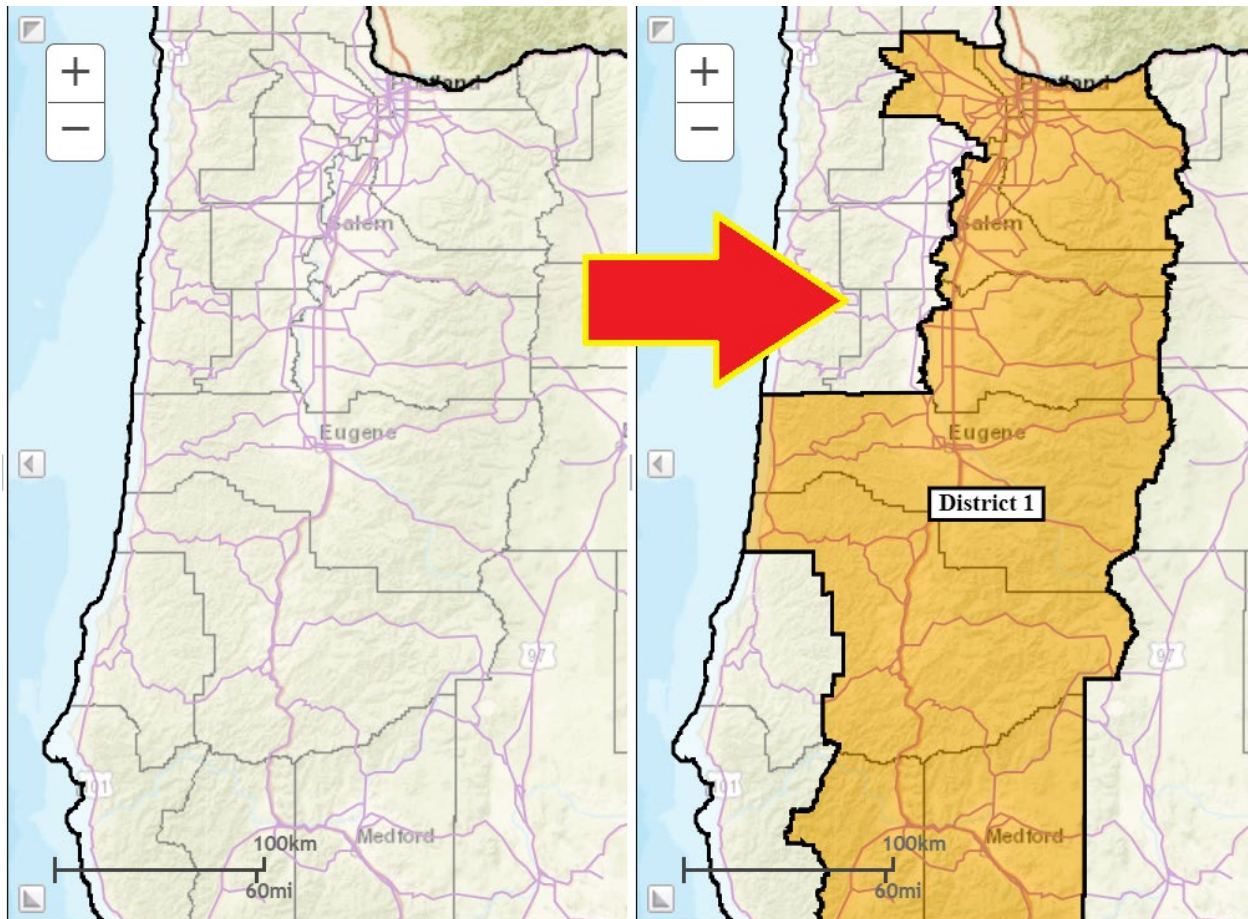
Fields:

Fields:	Get Sample Values
CLASS_NAME	46
FID	47
HWY_SYMBOL	5
HWY_TYPE	50
NAME	51
PREFIX	52

Expression:

☐ Filter Spatially

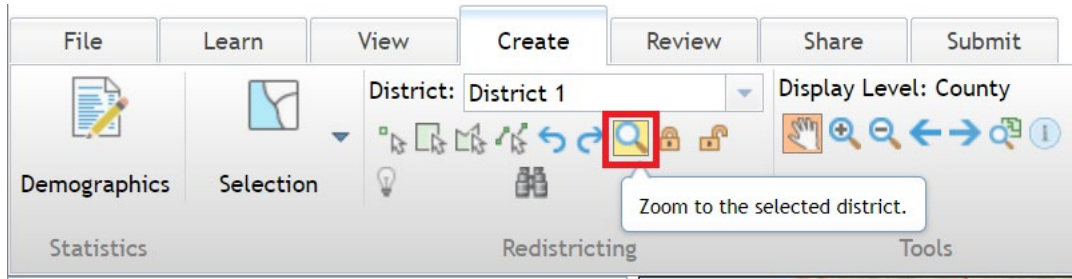
This selection finds counties that cross Interstate 5 and adds them to District 1:



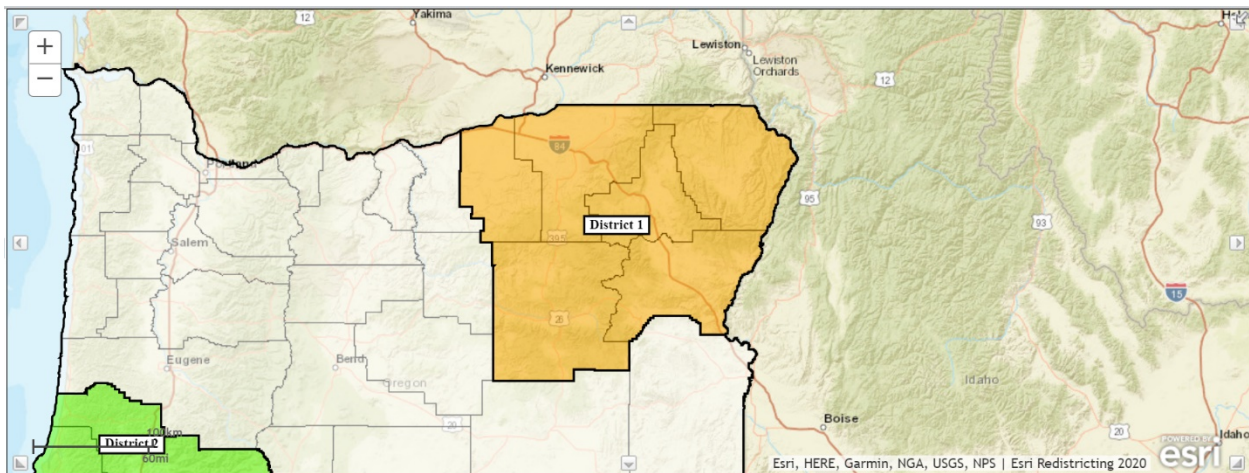
Spatial relationships can function differently when you're working with linear features like roads versus polygon features like counties. The above example, for instance, will not work if you use a polygon feature instead of a road feature like the Interstate. It will take time and practice to learn the select by location functions and determine the best way to fit them into your workflow.

Zoom to Selected District

You can quickly zoom to a specific district on your map. First, make sure you have a district selected (remember that you can do this with the drop-down menu in the Create ribbon or by clicking on the district in the District Window). Then, click on the Zoom to the selected district tool (magnifying glass icon):



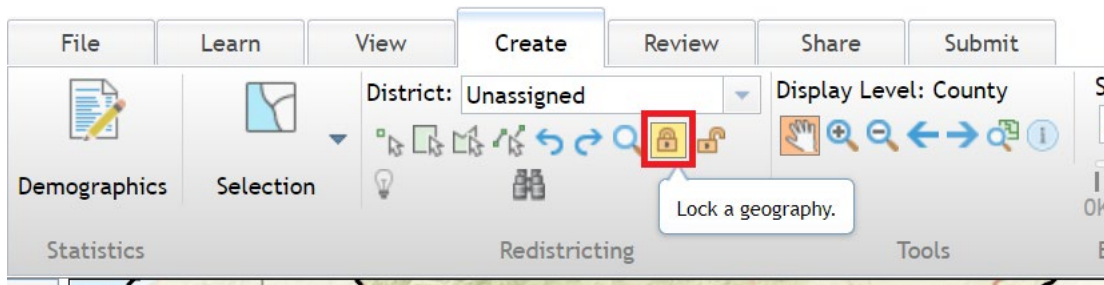
Clicking on this zooms your map to the selected district, centering it on your map:



Locking Geographies

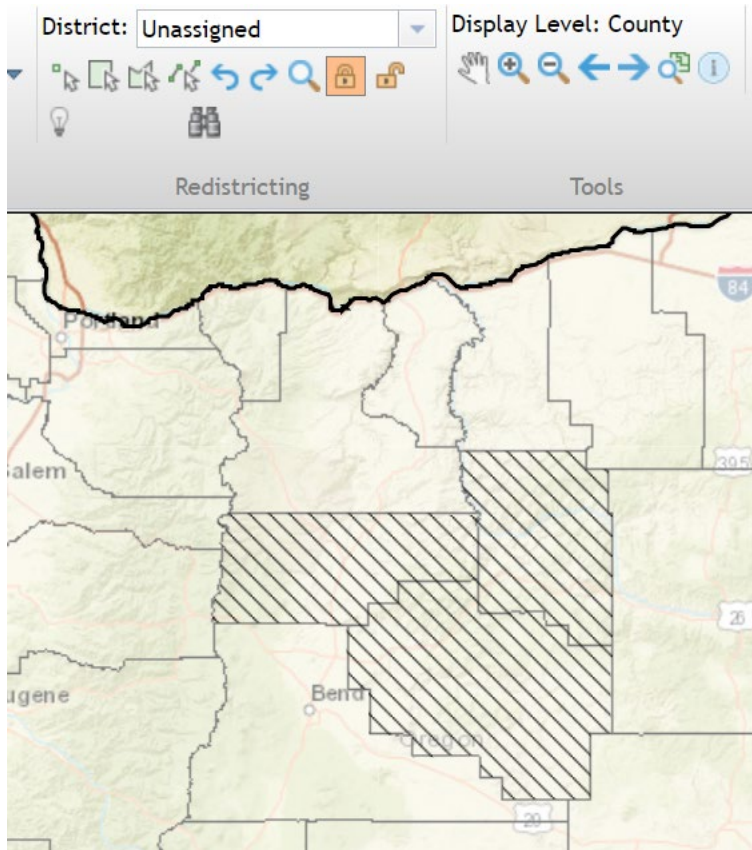
In addition to locking districts (covered in the training videos and *Getting Started* document), you can also lock geographies.

To lock a geography, click the Lock a geography button:

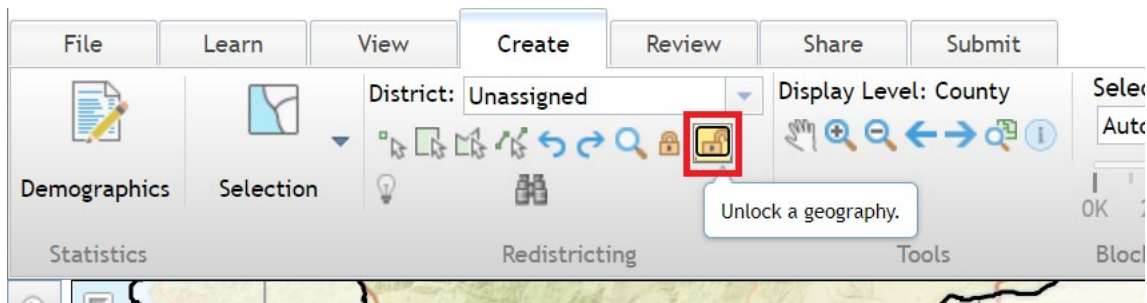


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When your mouse pointer is on the map, it will look like a padlock. You can click on geographies, which will lock them and place the cross-hatch pattern over them:



To unlock a district, click the Unlock a geography button:

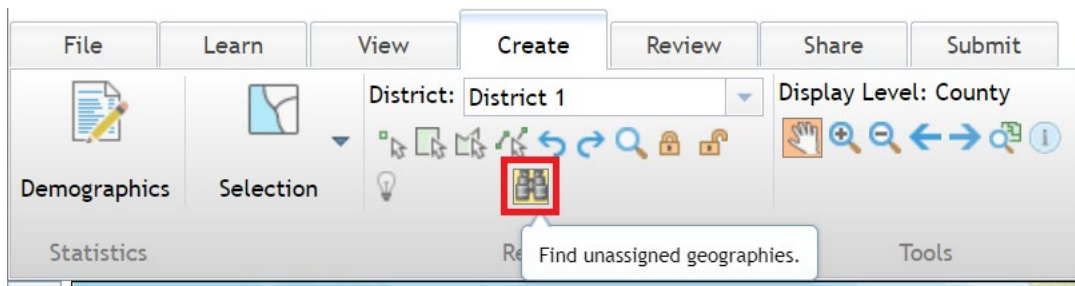


When your mouse pointer is on the map, it will look like an unlocked padlock. You can click on any locked geography to unlock it.

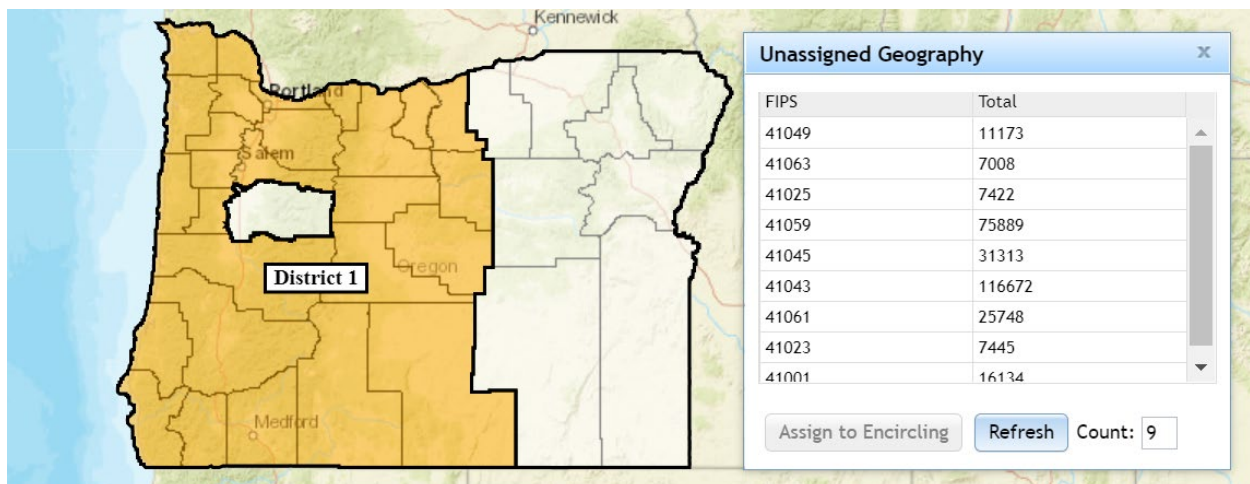
Geographies can be in any district or in the Unassigned category to be locked and unlocked. This can be useful if you want to lock a specific part of a district but don't want to lock all of it.

Find Unassigned Geographies

The Find unassigned geographies tool locates geographies you have not assigned yet. While it may be obvious if a county has not been assigned, there are over 100,000 Census blocks in Oregon! It is easy to miss one, which is where this tool helps. Click on the binoculars icon:

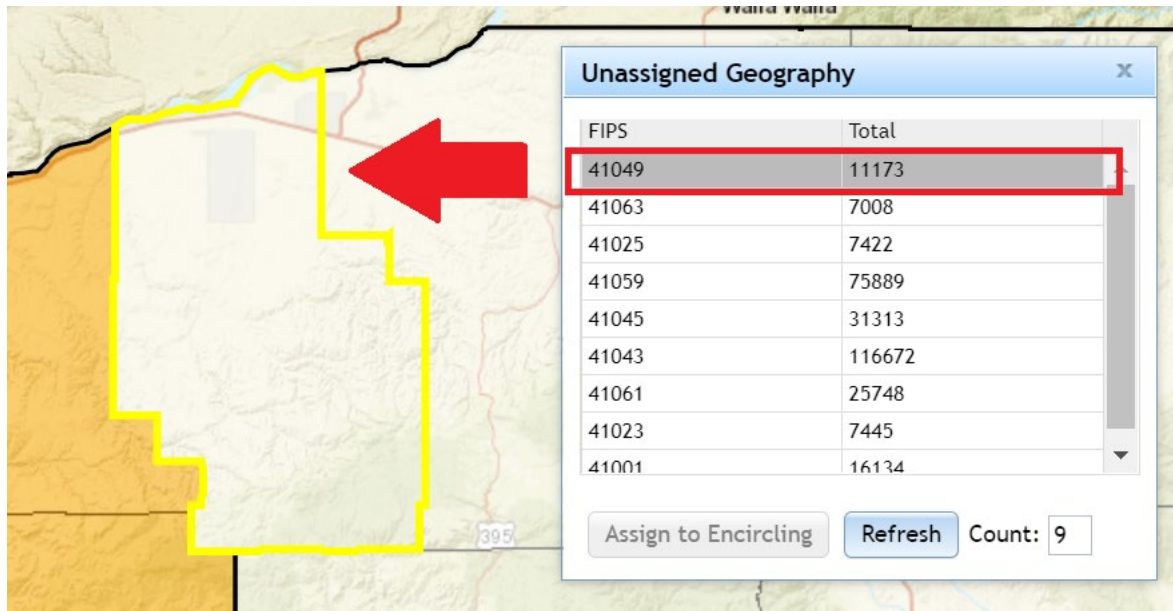


The Unassigned Geography window appears. In this example, eight eastern counties and one valley county have not been assigned yet:

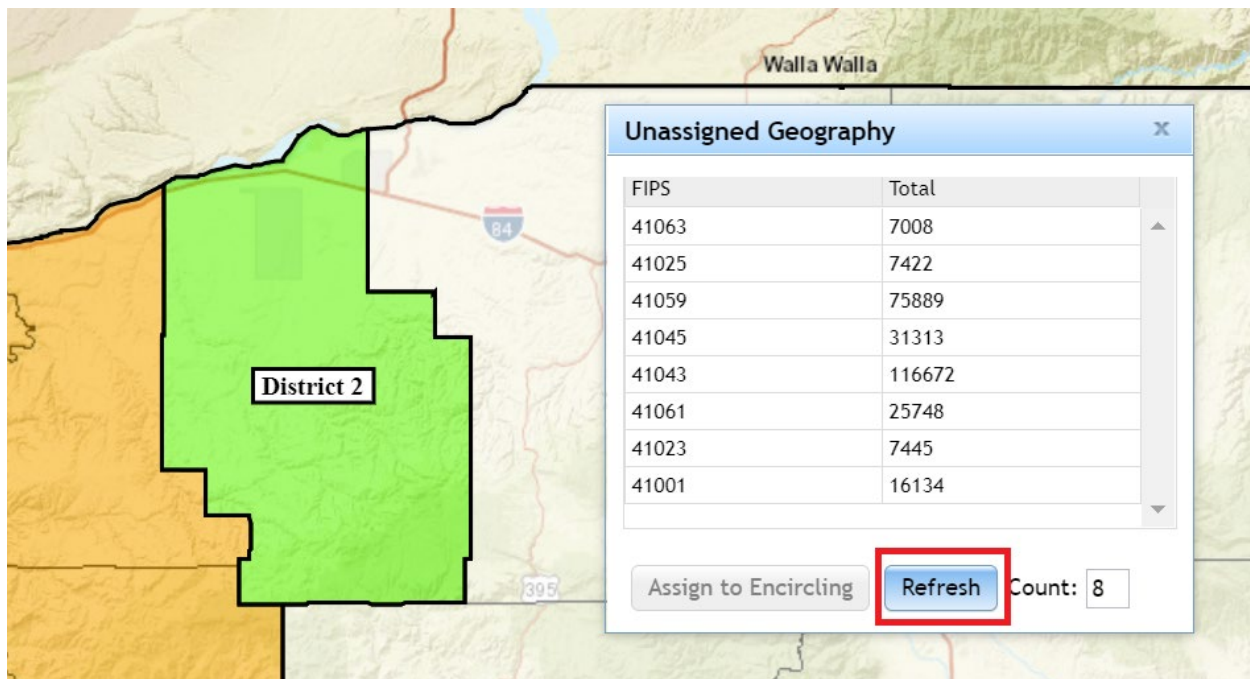


The left column (FIPS) shows the Census ID for the geography in question. The right column (Total) shows the total population for that geography.

If you click on one of the geographies in the list, the application zooms to it and outlines it in yellow:

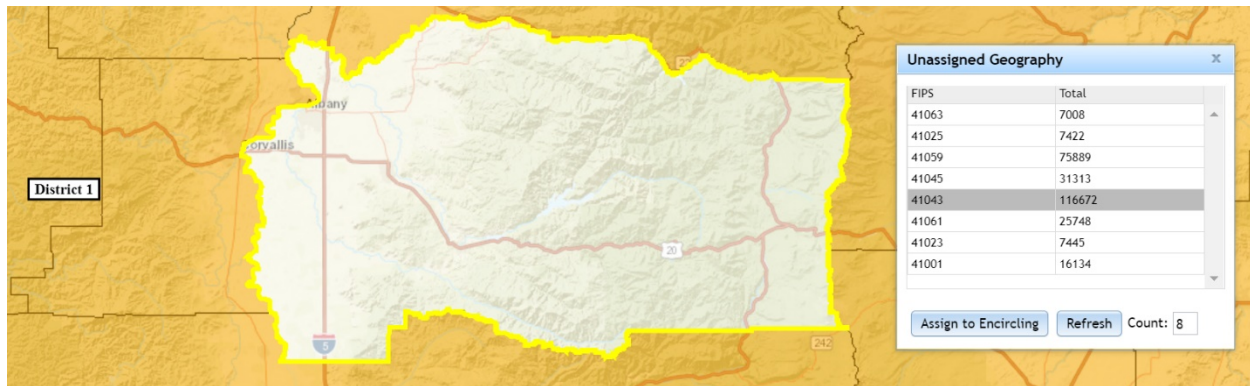


Once you assign that geography to a district, you can click the Refresh button, which will remove it from the unassigned geography list:



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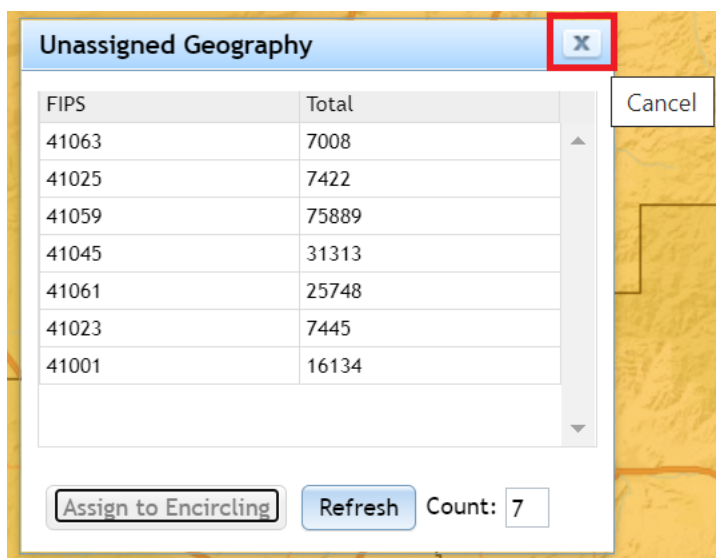
Sometimes you may have an unassigned geography that is completely surrounded by a district:



If you click on the Assign to Encircling button, that geography will be assigned to the district surrounding it:

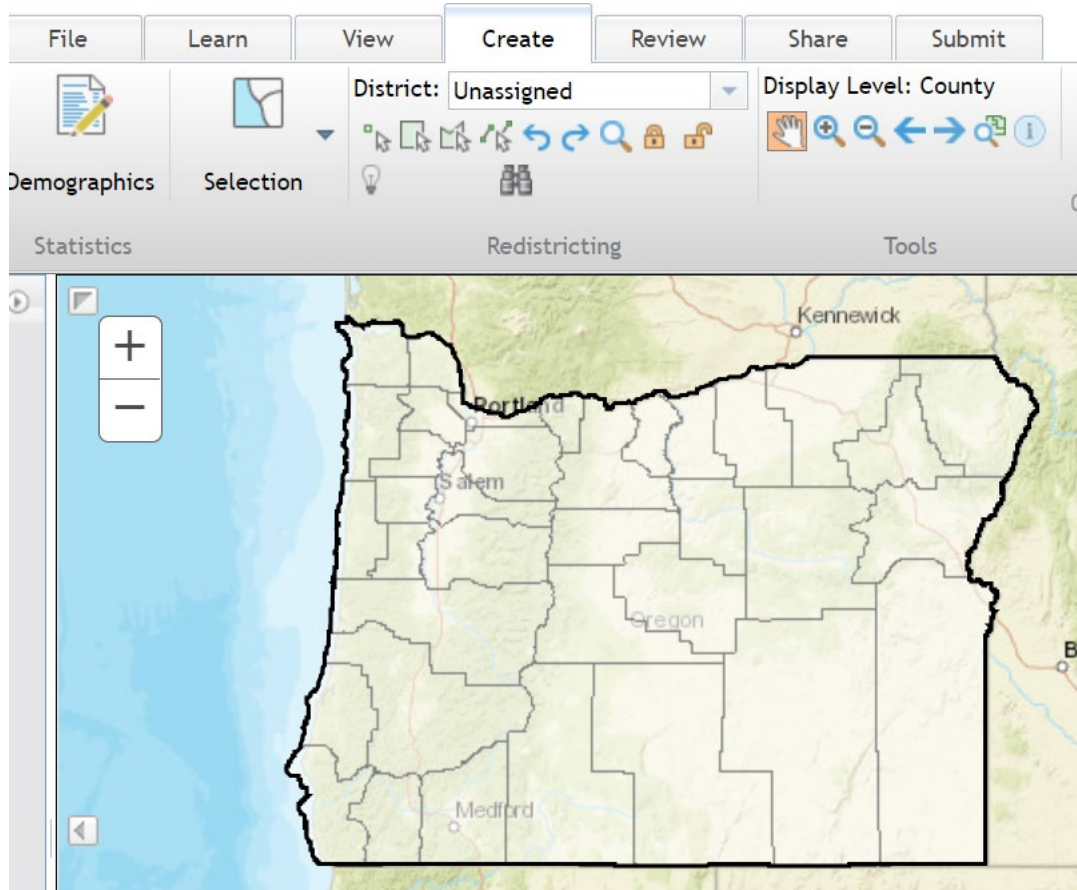


To exit the tool, click on the X in the top-right corner of the window:

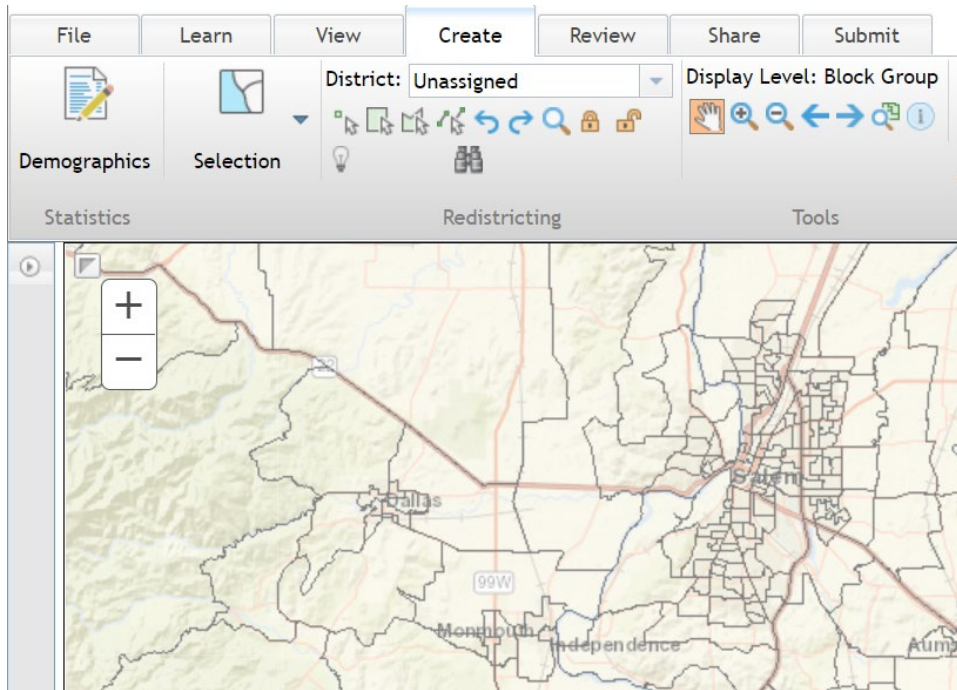


Extent Tools

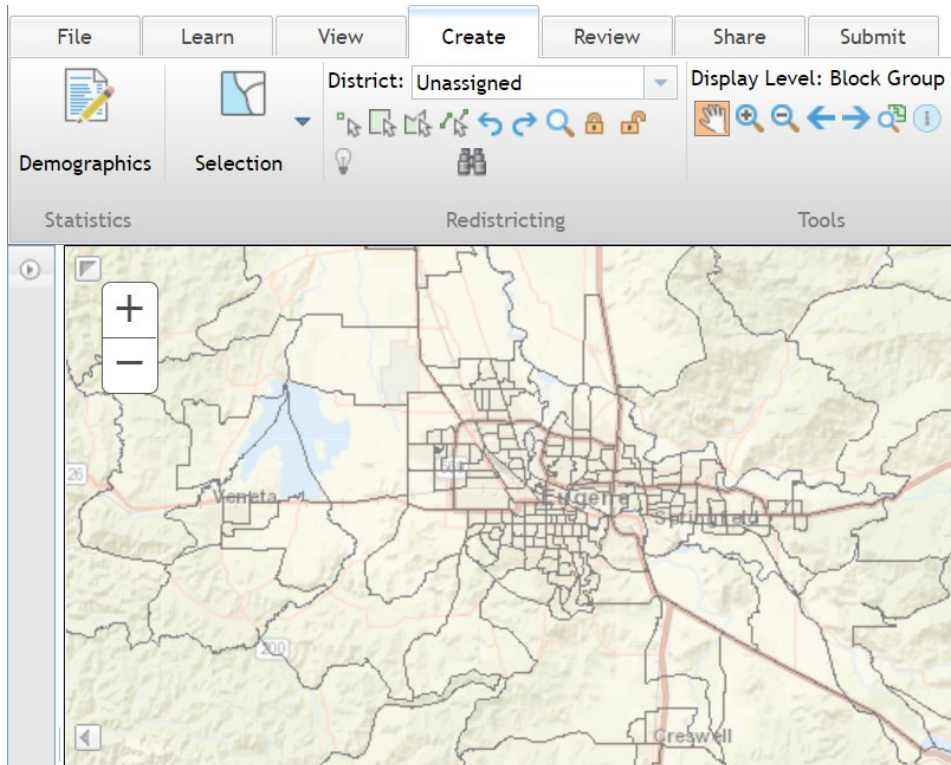
When moving around the map, the application keeps a record of your “extent.” To use this function, consider the following example. Let’s say you are zoomed in at the state level – this view is your current extent:



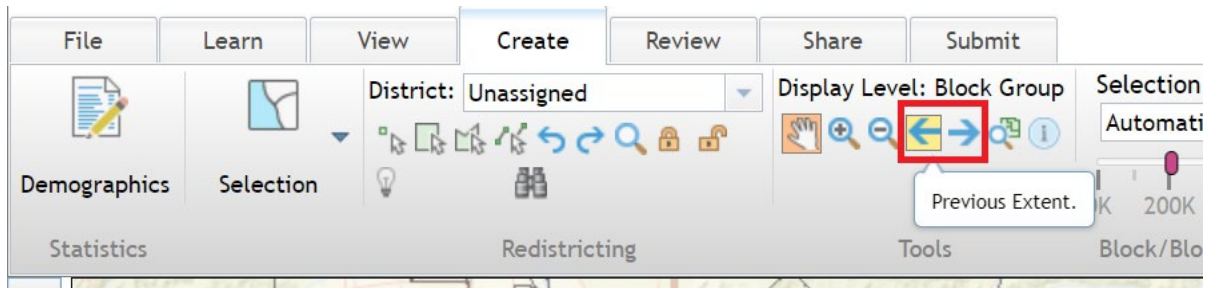
Now zoom in to an area of the map:



Now pan to another area of the map:



Click on the Previous Extent button (the left arrow under the Display Level dialogue):



Your map will move to the most recent stationary position it was at. Clicking the button again will move you to the most recent stationary position before that one, and so on. After you've clicked on Previous Extent at least once, you can click on the Next Extent button (the right arrow next to the left arrow) to move back to your more recent extents.

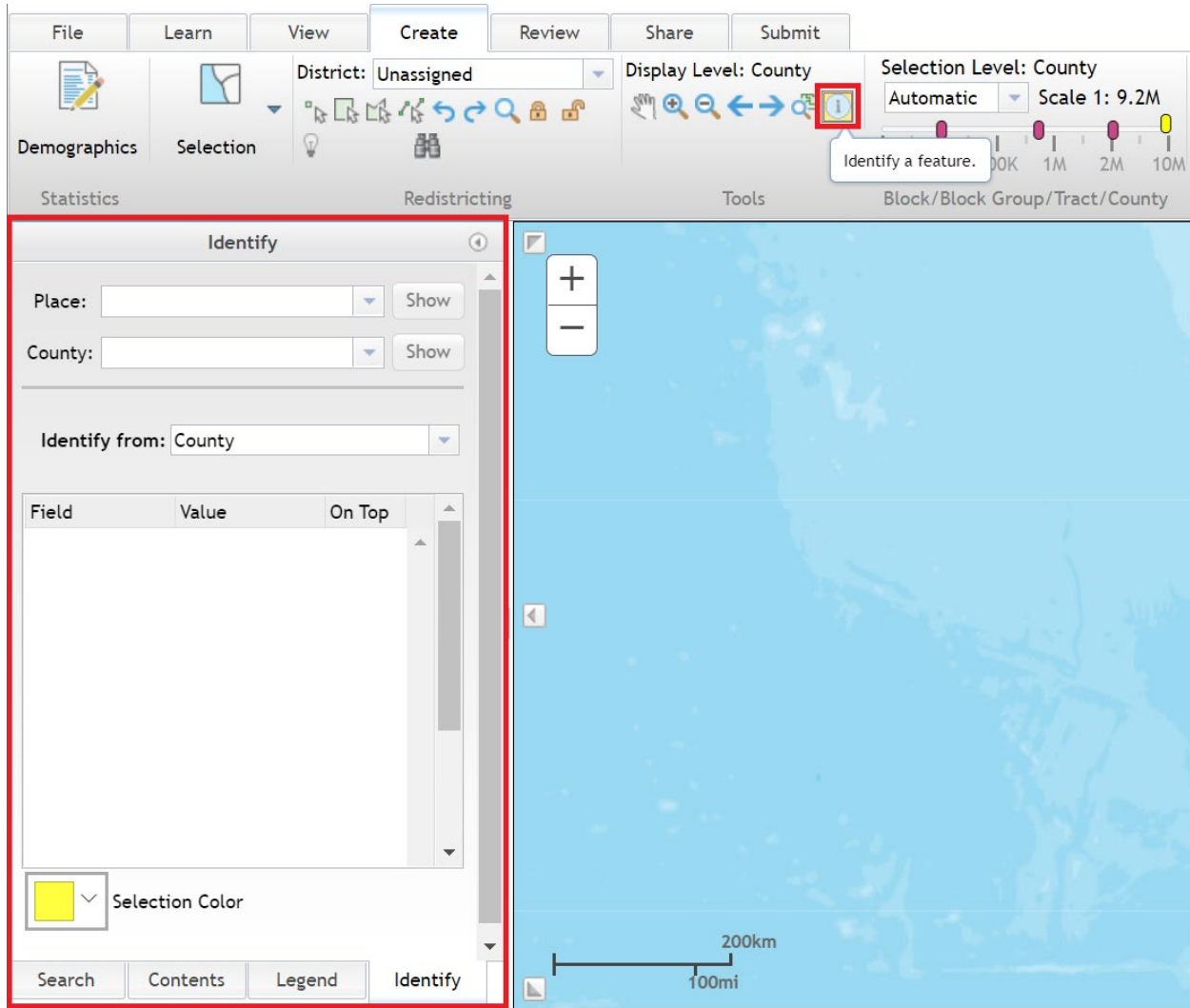
Identify Features

Identifying a Feature on the Map

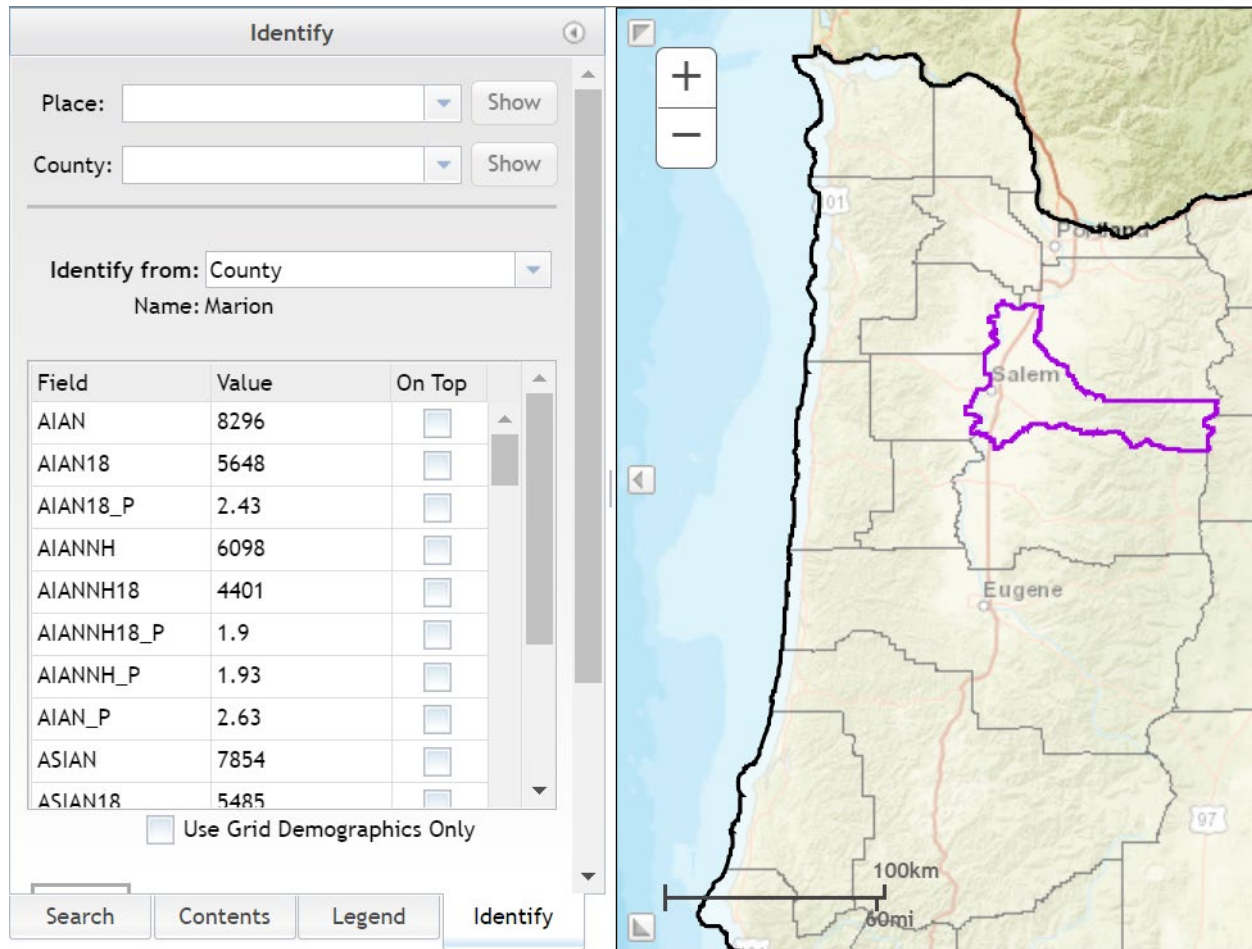
You can click on map features to identify what they are and then assign them to districts.

Click on the Identify a feature tool (the round light-blue icon with an “i” in it). The Identify panel appears:

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Click a county on your map. The Identify panel will provide information about the county you clicked on. In this example, we see information about Marion County:



The “Identify from” drop-down menu shows which layer is being used for identifying features. Underneath the menu is the name of the county you clicked on (in this case, Marion).

The chart below this shows the data variables available for the geography you clicked on. In this case, all demographics variables in the application are shown in an alphabetized list. Remember you can click on the Demographics button in the Create ribbon to see descriptions of what the variable names refer to.

If you click on the checkbox next to Use Grid Demographics Only, then the list will only show the variables in your District Window:

Identify

Place: Show

County: Show

Identify from: Name: Marion

Field	Value	On Top
AIANNH	6098	<input type="checkbox"/>
AIANNH_P	1.93	<input type="checkbox"/>
ASIANNH	7492	<input type="checkbox"/>
ASIANNH_P	2.38	<input type="checkbox"/>
BLACKNH	4118	<input type="checkbox"/>
BLACKNH_P	1.31	<input type="checkbox"/>
HPINH	2624	<input type="checkbox"/>
HPINH_P	0.83	<input type="checkbox"/>
MLTMNNH	1093	<input type="checkbox"/>
MITMNNH_P	0.35	<input type="checkbox"/>

☒ Use Grid Demographics Only

Search Contents Legend Identify

If you click the On Top checkbox, the variable is moved to the top of your list. In this example, the total population variable (TOTAL) is now at the top of the list, showing the total population of 315,335 (this example uses 2010 Census data).

Identify

Place: Show

County: Show

Identify from: County

Name: Marion

Field	Value	On Top
TOTAL	315335	<input checked="" type="checkbox"/>
AIANNH	6098	<input type="checkbox"/>
AIANNH_P	1.93	<input type="checkbox"/>
ASIANNH	7492	<input type="checkbox"/>
ASIANNH_P	2.38	<input type="checkbox"/>
BLACKNH	4118	<input type="checkbox"/>
BLACKNH_P	1.31	<input type="checkbox"/>
HPINH	2624	<input type="checkbox"/>
HPINH_P	0.83	<input type="checkbox"/>
MITMNNH	1093	<input type="checkbox"/>

☒ Use Grid Demographics Only

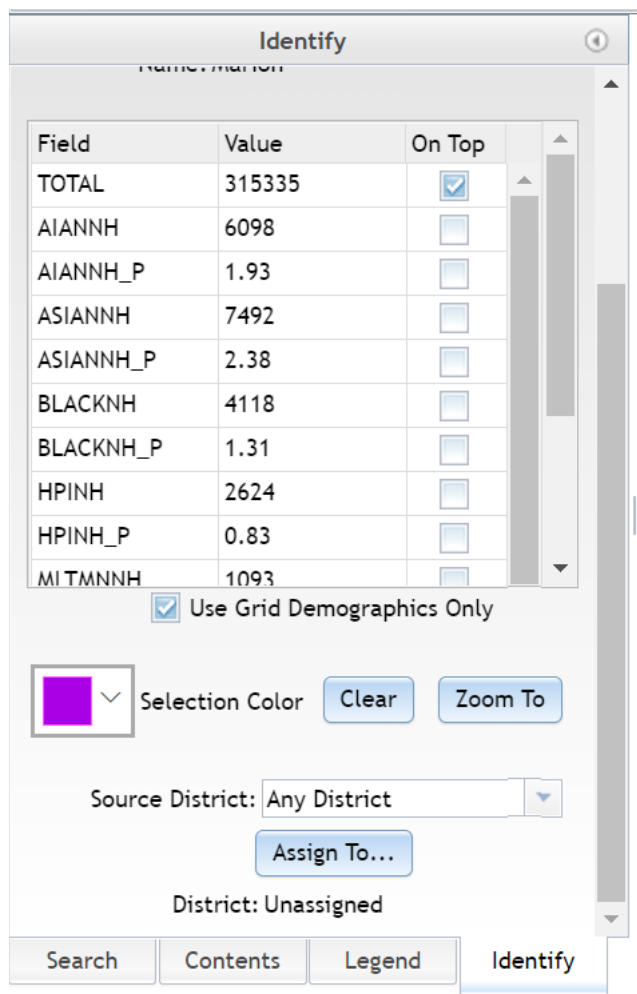
Search

Contents

Legend

Identify

If you scroll down in the Identify panel, there are some more options:



If you click on the box to the left of Selection Color, you can change the color of your selection on the map. The default color is yellow, though depending on your base map that can be hard to see. We use purple in this example.

The Clear button clears your selection. Zoom To zooms to your selection on the map.

You can assign your selection to a district. In the District drop down menu in the Create ribbon, choose the district you want to put your selection in. In the Identify panel, the Source District drop-down menu refers to the district your selection is currently in.

For example, if you choose Any District, then the entirety of your selection will be added to your district. If you choose Unassigned, then only the Unassigned portions of your selection will be added to your district. If you choose District 1, then only the portions of your selection currently in District 1 will be added to your district. In the example below, selected areas currently in the Unassigned category would be added to District 1:

Redistricting Online 2.31

Select the active district.

District: **District 1** Display Level: Tract

Demographics Selection Statistics Redistricting Tools

Identify

Field	Value	On Top
TOTAL	315335	<input checked="" type="checkbox"/>
AIANNH	6098	<input type="checkbox"/>
AIANNH_P	1.93	<input type="checkbox"/>
ASIANNH	7492	<input type="checkbox"/>
ASIANNH_P	2.38	<input type="checkbox"/>
BLACKNH	4118	<input type="checkbox"/>
BLACKNH_P	1.31	<input type="checkbox"/>
HPINH	2624	<input type="checkbox"/>
HPINH_P	0.83	<input type="checkbox"/>
MITMNNH	1093	<input type="checkbox"/>

☒ Use Grid Demographics Only

Selection Color

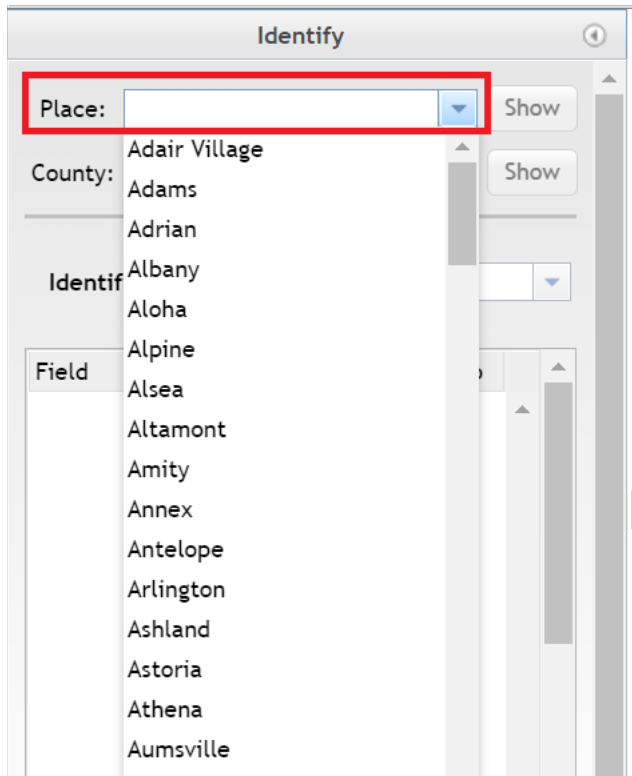
Source District: **Unassigned**

District: District 1

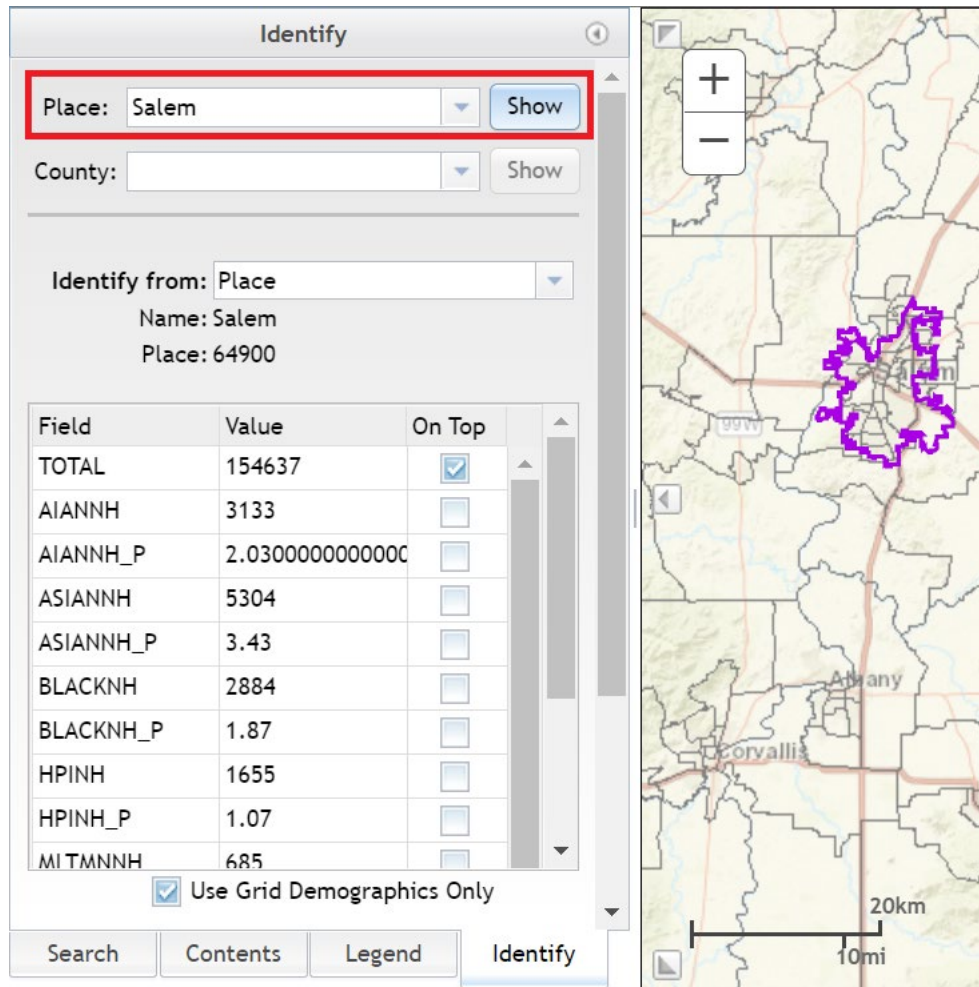
Map showing a geographical area with a scale bar (10mi, 20km) and a label for "City".

Finding a Feature on the Map

In the Identify panel, click on the drop-down Place menu. All of Oregon's cities and Census-designated unincorporated places will show up here.



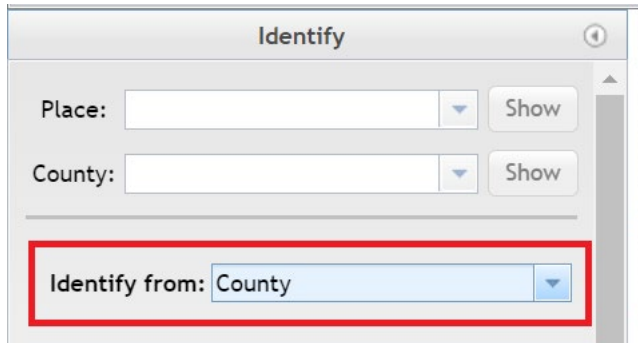
If you choose a place, and then click the Show button, that place will be selected on your map, and information about the place will show up in the Identify panel:



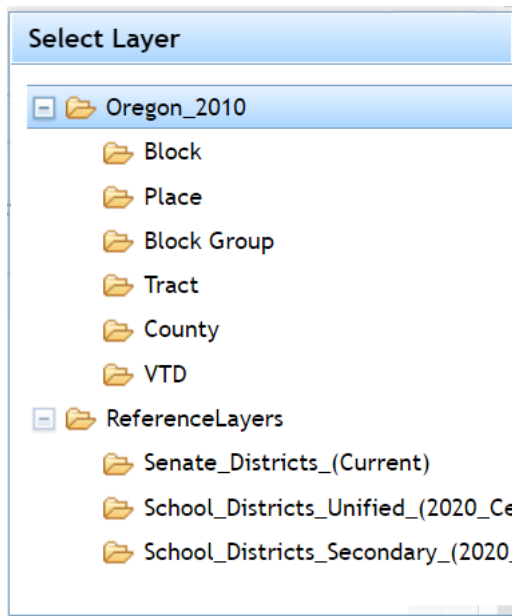
You can then add the selection to your districts the same way we did in the previous identify examples.

The County drop-down menu works the same way as the Place drop-down menu.

You have more options than cities and counties. Click on the “Identify from” drop-down menu:



The Select Layer window appears:

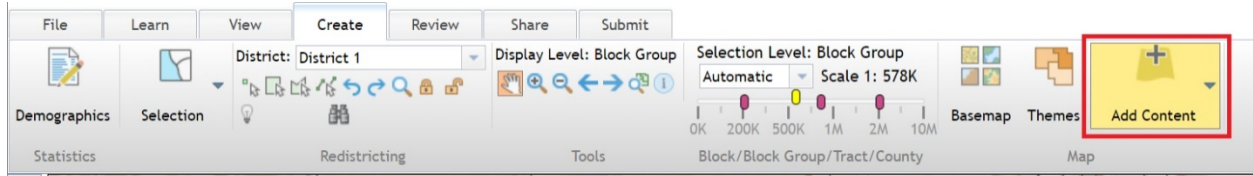


Any selectable layer in your plan will appear in the window. For example, if you click on Block Group and then click on your map, the block group you clicked on will be selected, and its data will show up in the Identify panel's data table. The other functions in the Identify panel work the same way with default data, reference layer data, and data you've imported into your plan.

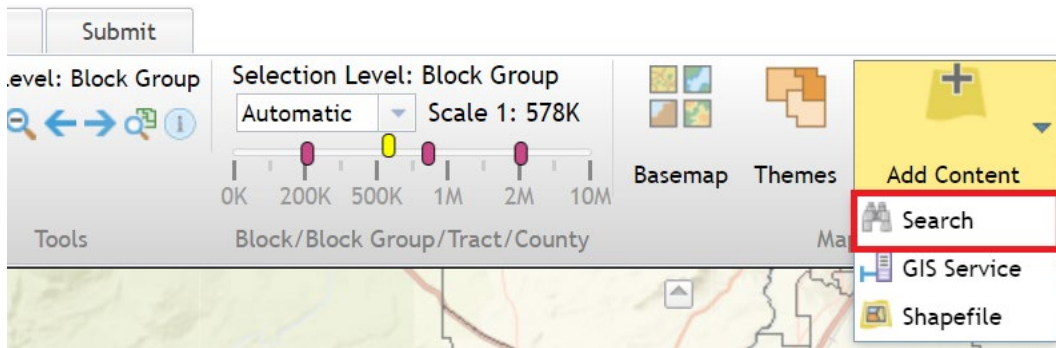
Add Content

You have the option of bringing in outside data to your plan. Click on the Add Content button:

SUPPLEMENTAL GUIDE TO THE REDISTRICTING SOFTWARE

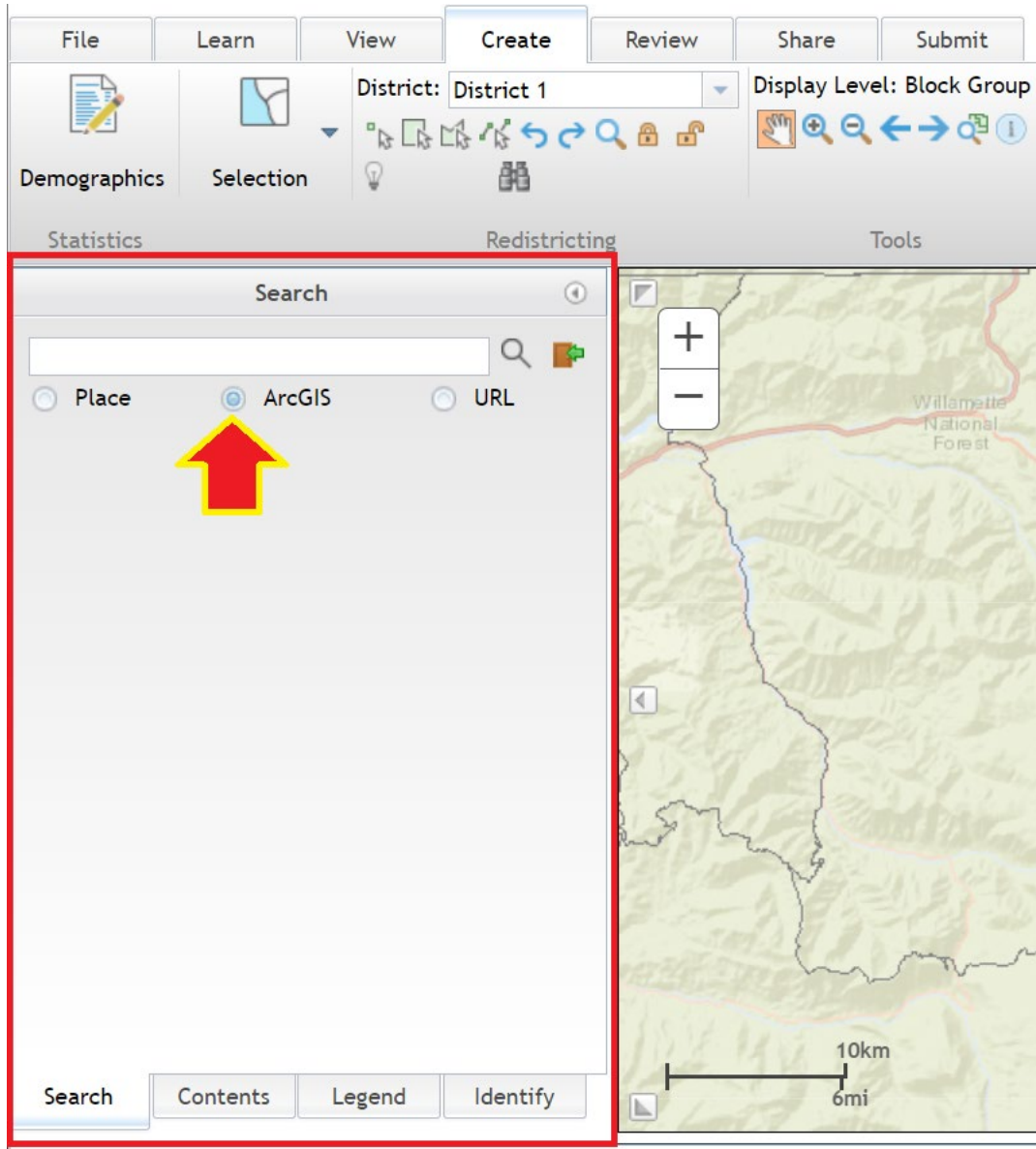


Three options appear in a drop-down menu:

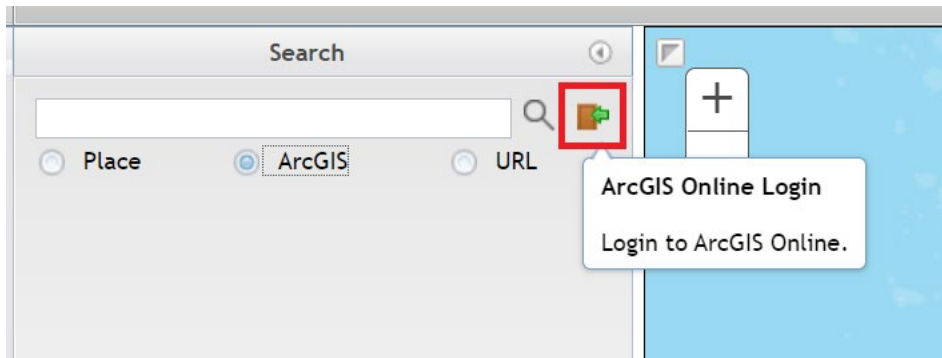


Search ArcGIS

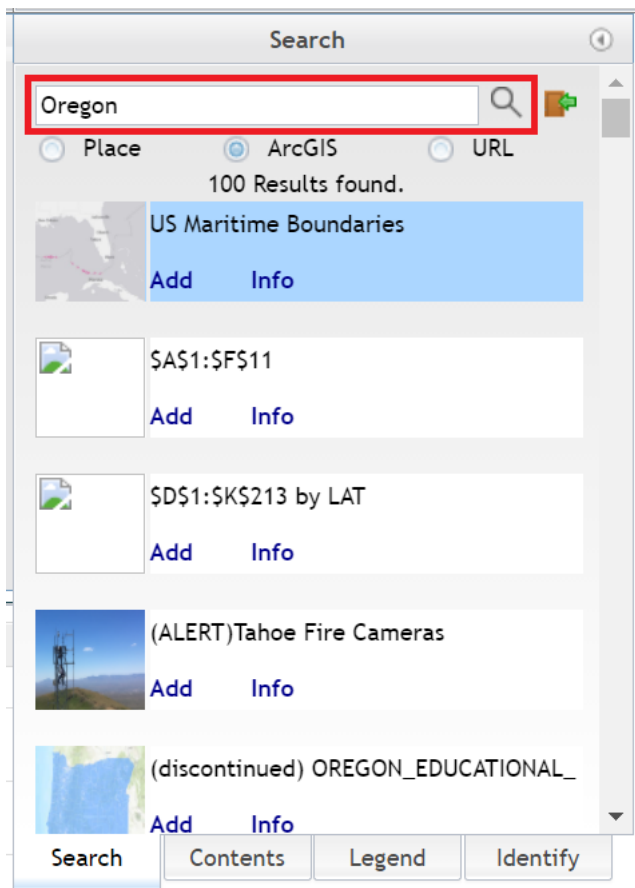
The first option is the Search function. Clicking on that opens the Search panel. The ArcGIS option will be selected, allowing you to search for online data hosted on the ArcGIS platform:



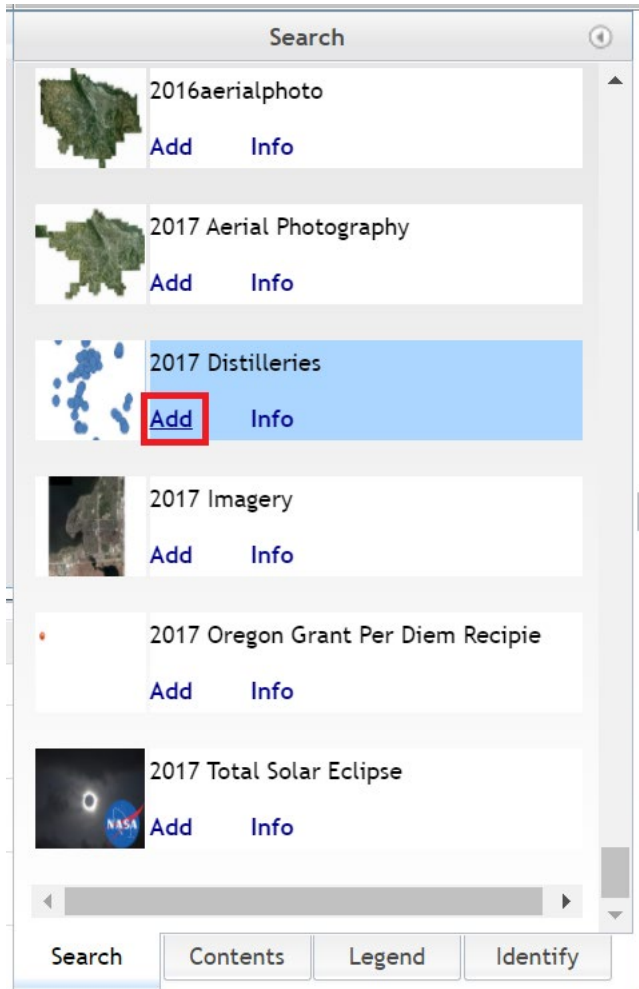
If you have an ArcGIS Online account, you can click on the ArcGIS Online Login icon. This may provide you additional data options if your account has access to private data (logging in is *not* required to access publicly available data, though):



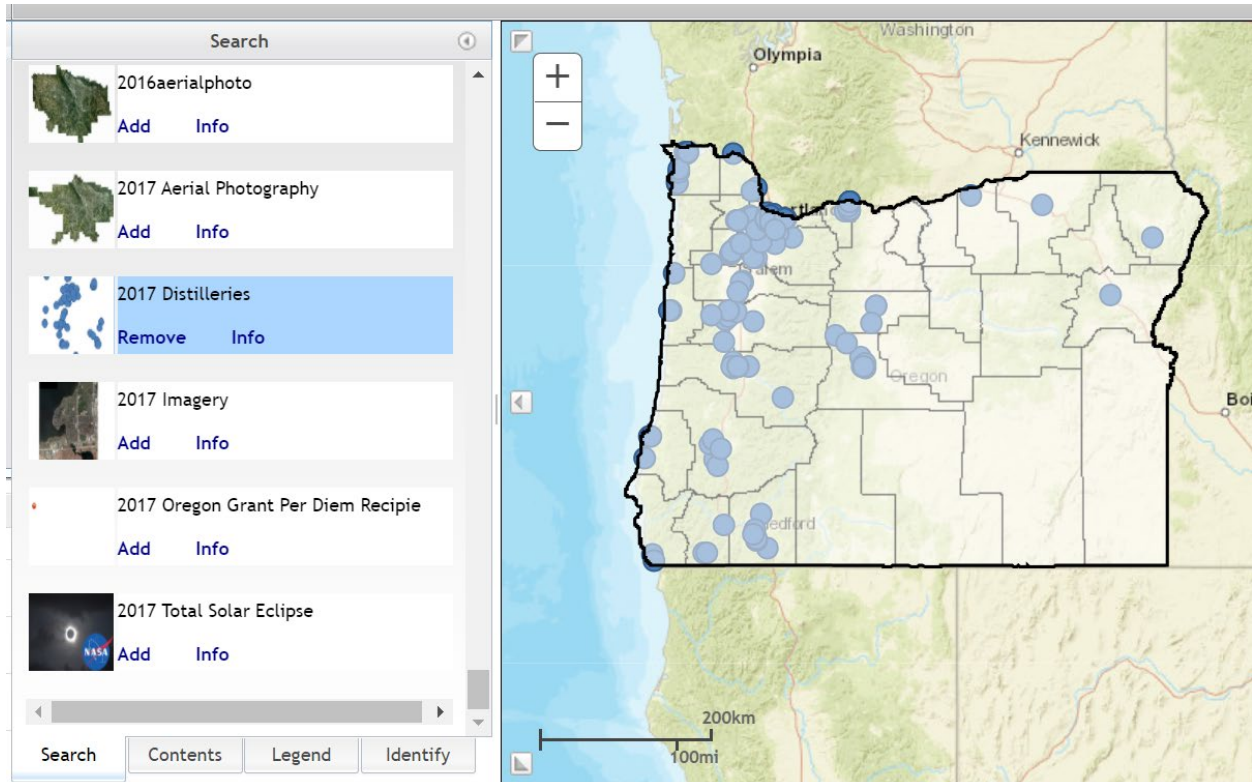
In the search bar, you can type in a search term, and then click on the magnifying glass:



The application will search for datasets using that term, and they will be provided in the list below the search bar. Scroll down until you find a dataset of interest, and click its Add link:

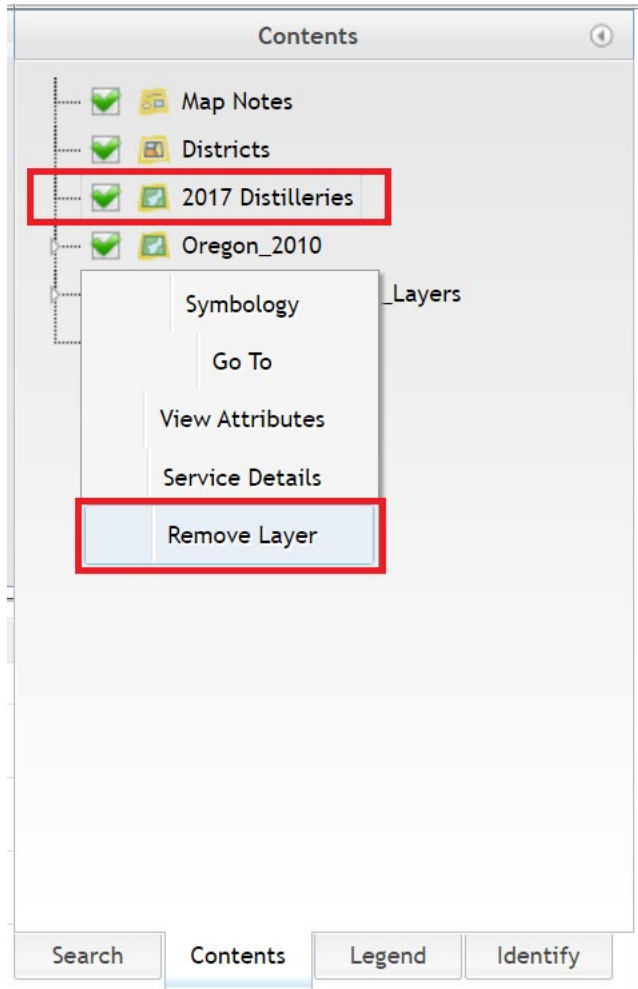


The data will now be displayed on your map, and the Add link turns into a Remove link:



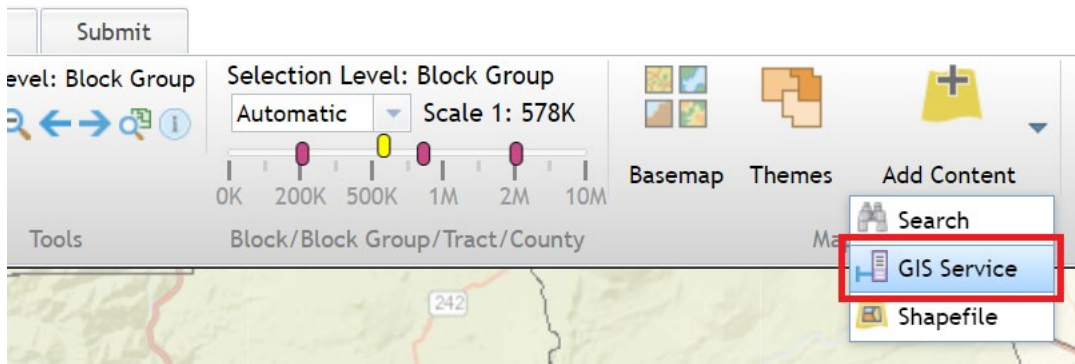
When you add a dataset to your map, it appears in your Contents panel. Right-clicking on the layer name provides the option to change the data symbology (how it appears on your map); zoom to the layer by clicking Go To; see its data table by clicking View Attributes; or view the layer's online metadata by clicking Service Details.

You can remove the dataset from your map by clicking the Remove link in the search results, or by going to the Contents panel, right-clicking the dataset name, and then clicking Remove Layer:

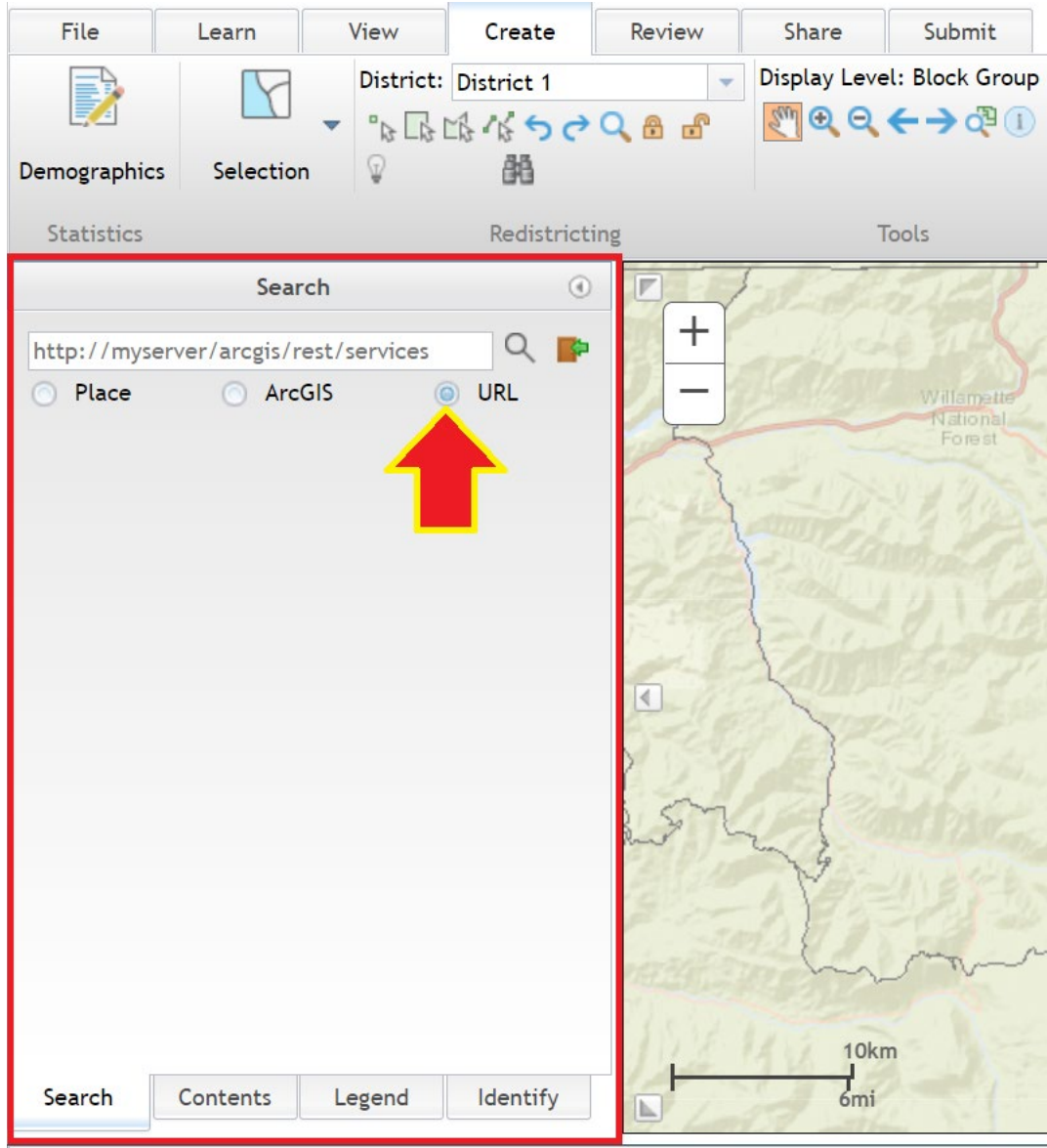


GIS Service

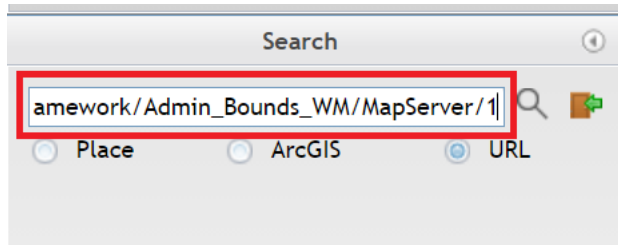
The second option in the Add Content drop-down menu is GIS Service:



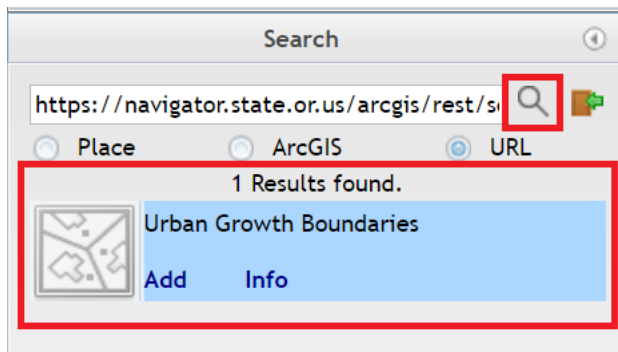
This also opens the Search panel, but now URL is selected. This allows you to connect to a specific GIS service and add its data to your plan:



If you have the URL to a service, type or paste it into the search bar. In this example, we are using the URL https://navigator.state.or.us/arcgis/rest/services/Framework/Admin_Bounds_WM/MapServer/1. This service, from the Oregon Spatial Data Library, contains Oregon's Urban Growth Boundaries as of 2019:



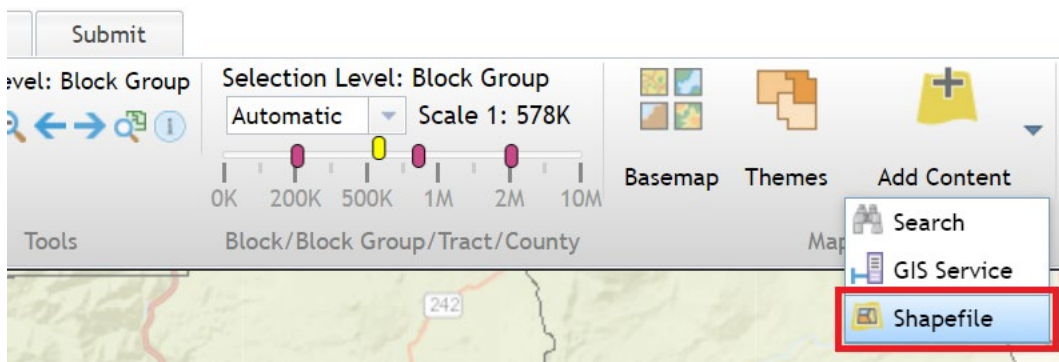
When you click on the Search icon (the magnifying glass next to the search bar), a list of available layers in the service will appear:



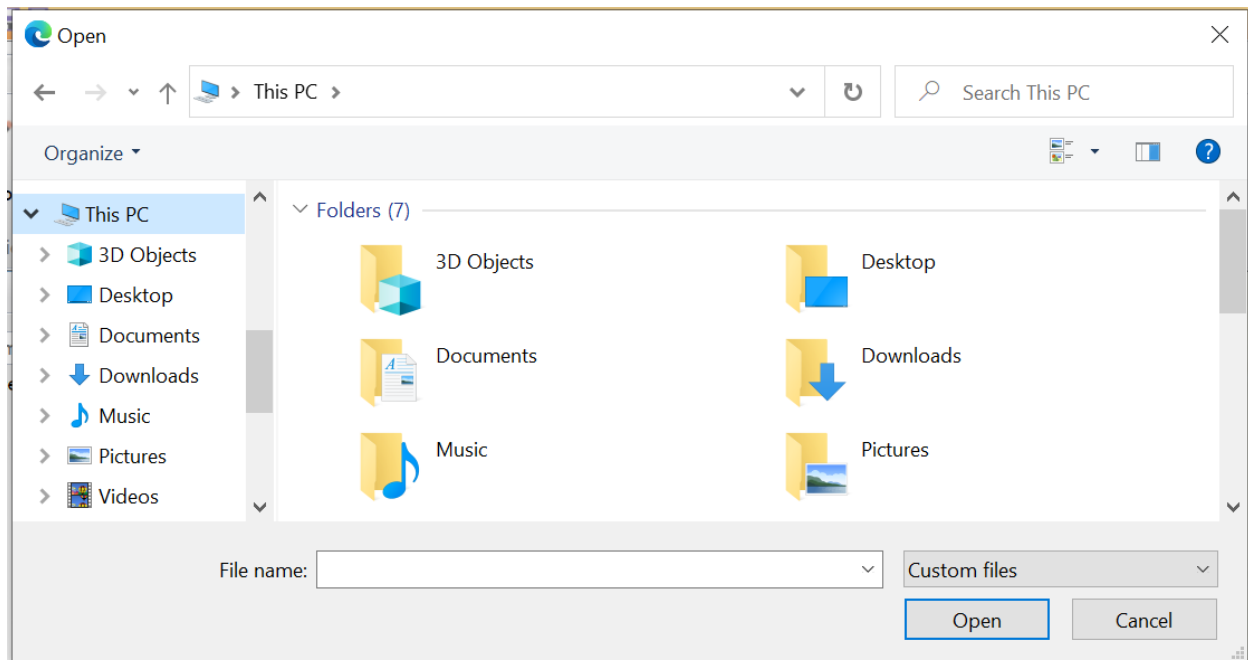
At this point, the procedure for using the data is the same as with the search ArcGIS function described earlier.

Shapefiles

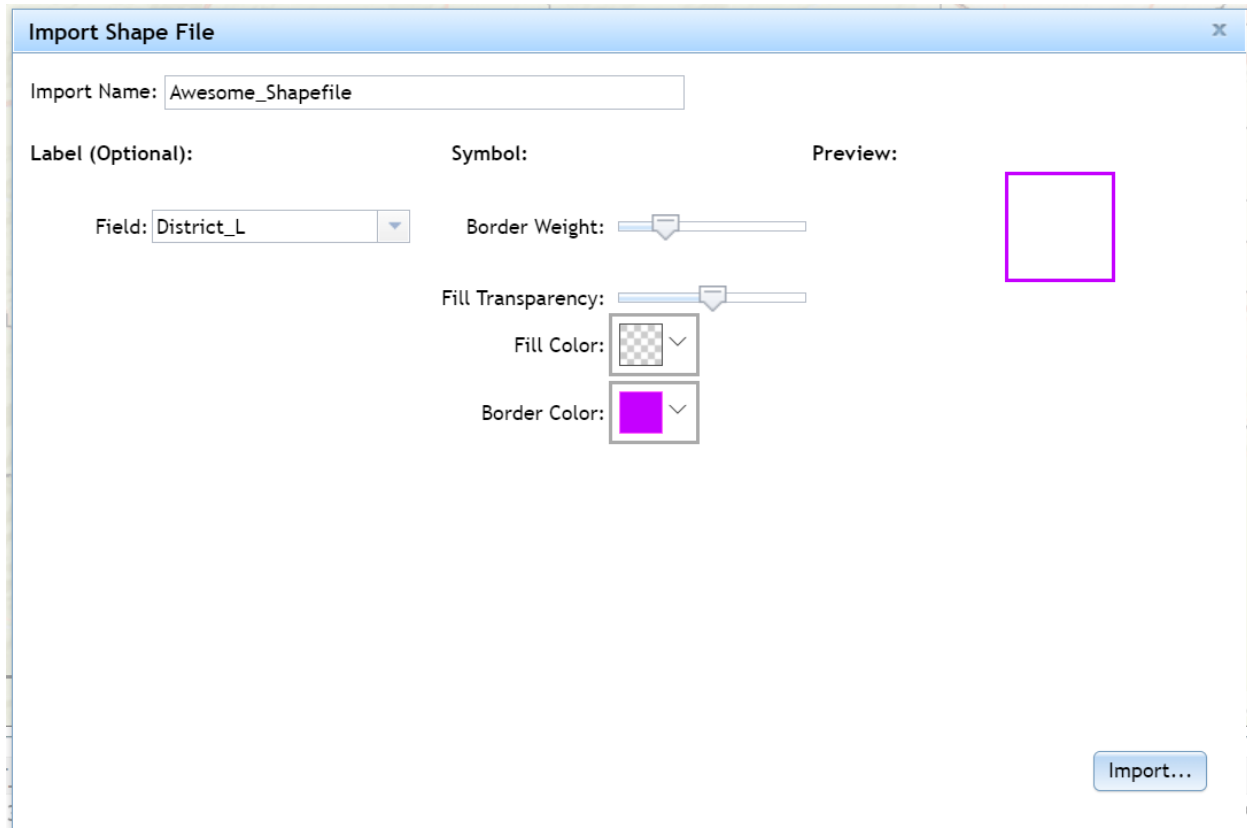
The third option under Add Content is Shapefile:



Your computer's standard open file window appears:



To add a shapefile to your plan, it must be in a .zip file. Once you locate and select the .zip file on your computer, click the Open button. The Import Shape File window appears:



This window allows you to customize how the shapefile appears on your map.

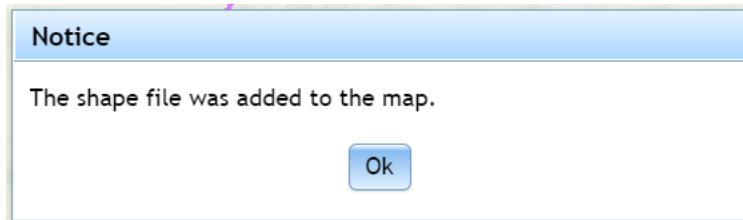
Import Name lets you specify the name of your shapefile.

Clicking on the Field drop-down menu under Label (Optional) lets you specify which field in your shapefile will be used to label features on your map.

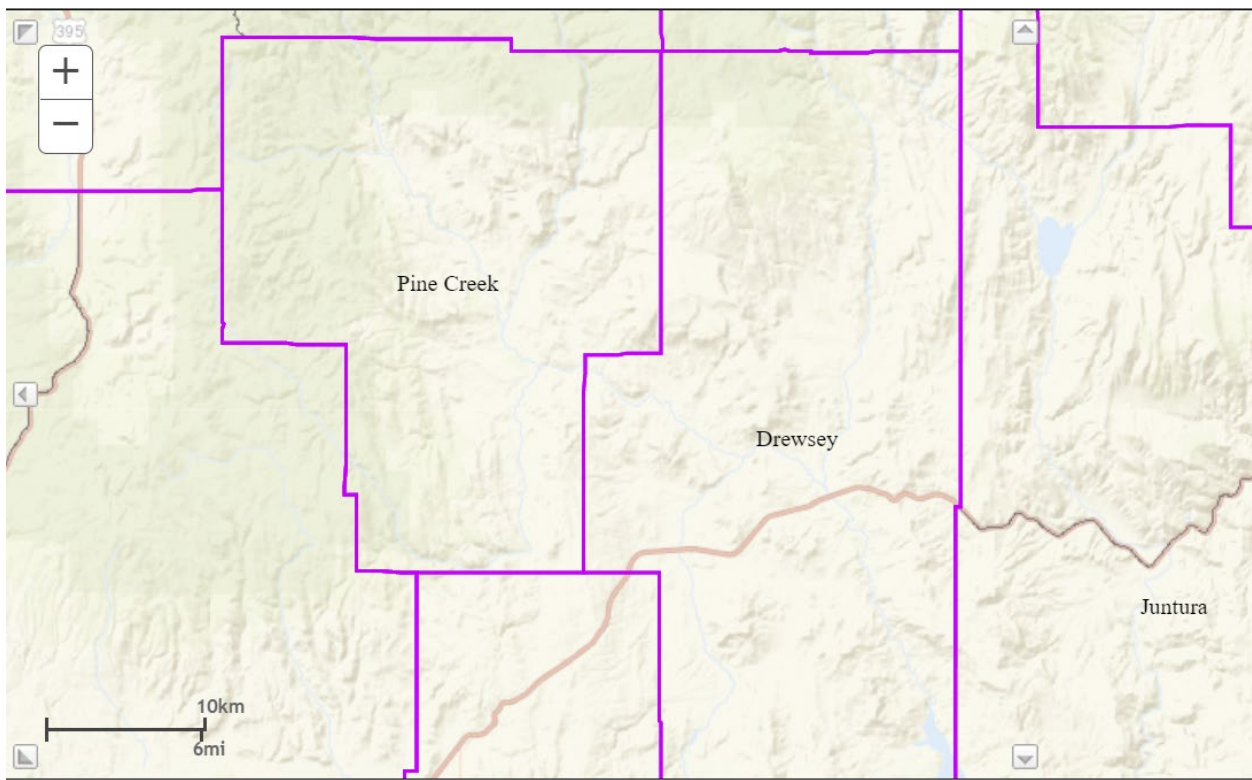
Under Symbol you have options to customize how the shapefile looks on your map. In this example, think of a shapefile containing a square. Border Weight refers to the thickness of the square's outline. Fill Transparency refers to how transparent the square will be on your map. Clicking on the box next to Fill Color lets you choose what color the inside of the square will be. Clicking on the box next to Border Color lets you choose what color the square's outline will be.

Under Preview on the right-side of the window is a preview of what your square would look like on your map.

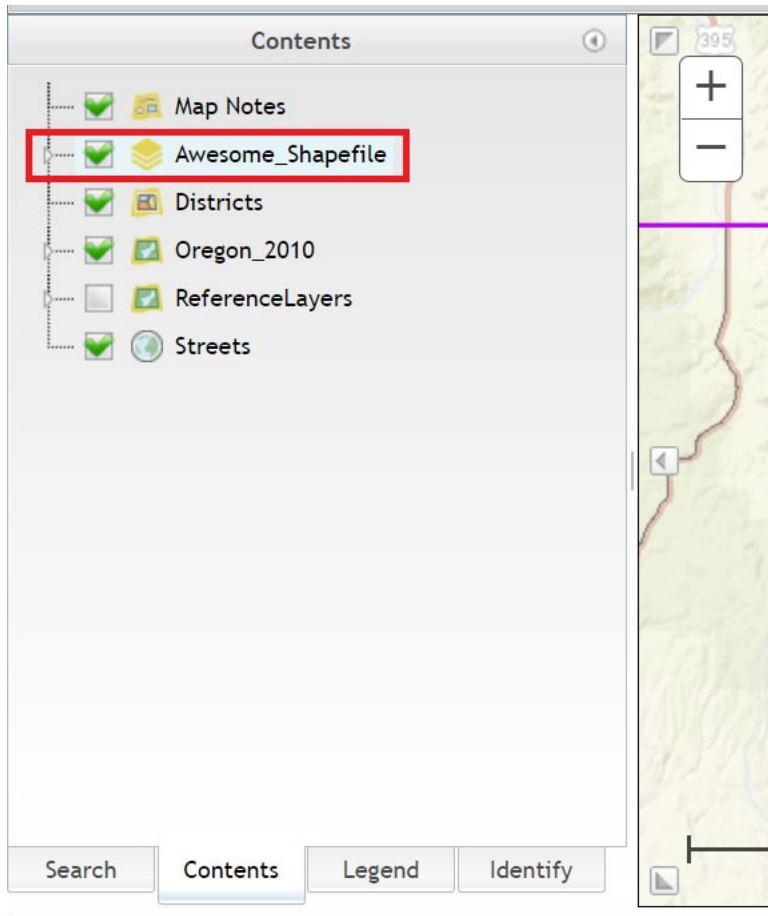
Click on the Import button once you're finished with these options. The Notice window appears:



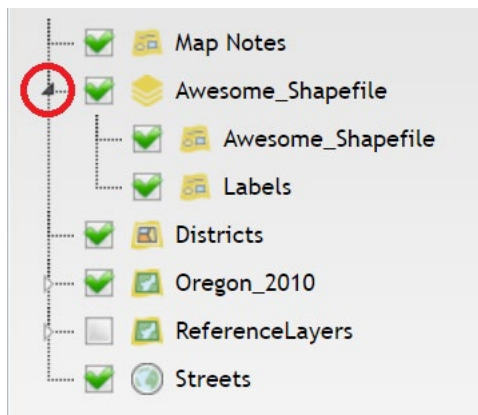
Your shapefile now appears on the map:



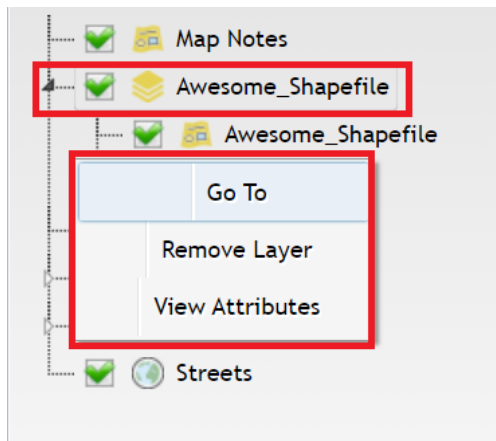
The shapefile also appears in your list of layers:



If your layer has a tiny arrow to the left of its name, more options will appear when you click the arrow. In this case, you can turn off the features (the purple lines in the example above), and/or the labels (the names in the example above) by clicking on the appropriate checkboxes:



When you right-click the shapefile name, three options appear:

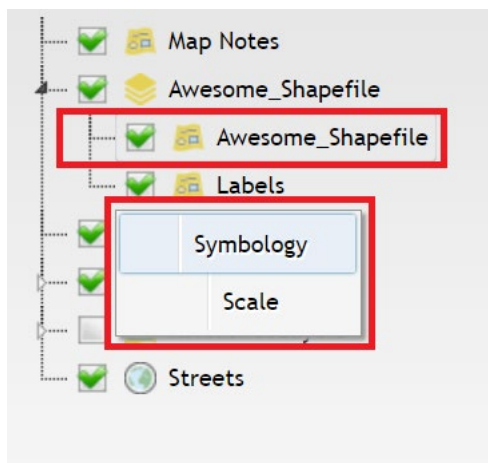


Go To takes you to the shapefile's extent. If, for example, the shapefile only covers a single county, clicking Go To will automatically zoom your map to that county.

Remove Layer removes the layer from your plan.

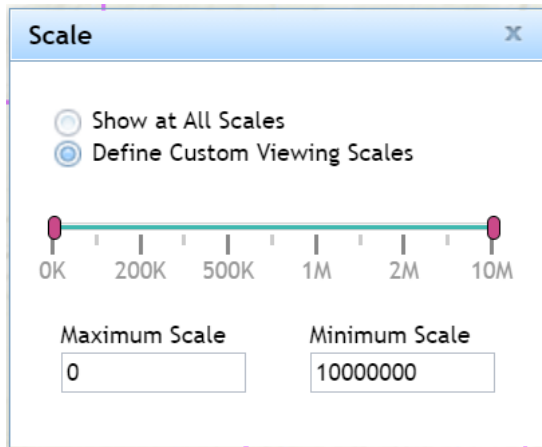
View Attributes opens the attribute table (the data associated with this shapefile) in the District Window.

Right-clicking the layer name brings up the Symbology and Scale options:



Symbology opens the Symbology window, which lets you adjust the border weight, border transparency, border color, fill transparency, and fill color like you did when you first imported the shapefile.

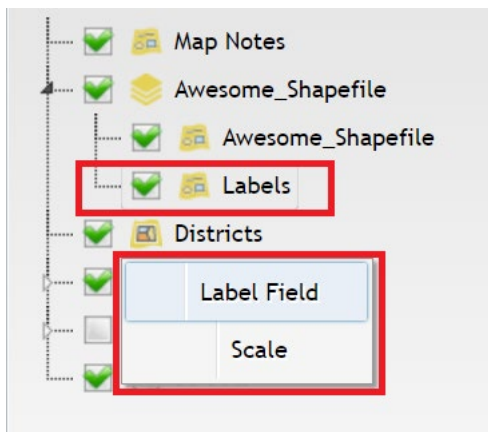
Scale brings up the Scale window, which lets you choose which zoom level your layer appears at:



Selecting Show at All Scales means your shapefile will be visible on the map no matter how much you zoom in or out.

Define Custom Viewing Scales lets you customize which zoom levels your shapefile appears at. For example, if you set the Maximum Scale to 1,000 and zoom in closer than that, the shapefile will automatically turn off at scales closer than 1:1,000. If you set the Minimum Scale to 10,000 and zoom out farther than that, the shapefile will automatically turn off at scales beyond 1:10,000.

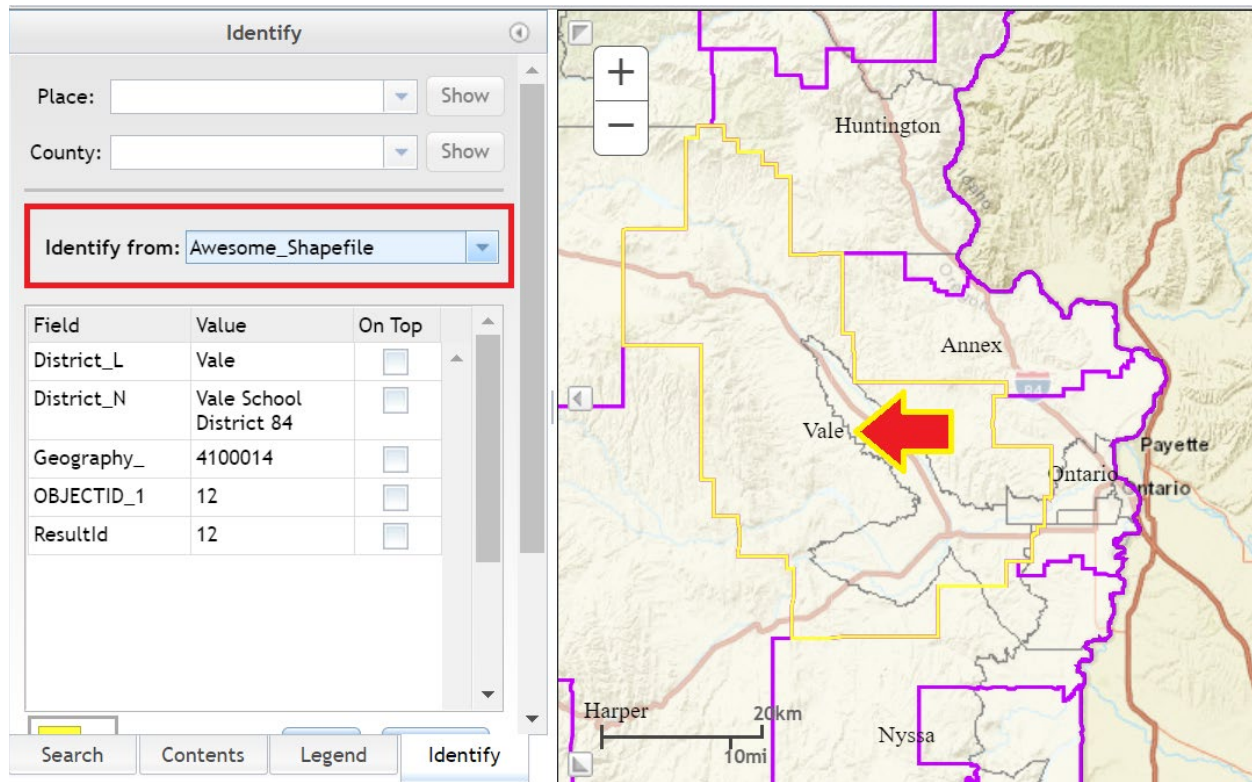
Right-clicking Labels brings up the Label Field and Scale options:



Clicking Label Field lets you change which field in your shapefile is used to label features on your map.

Scale operates the same way for labels as it does for features.

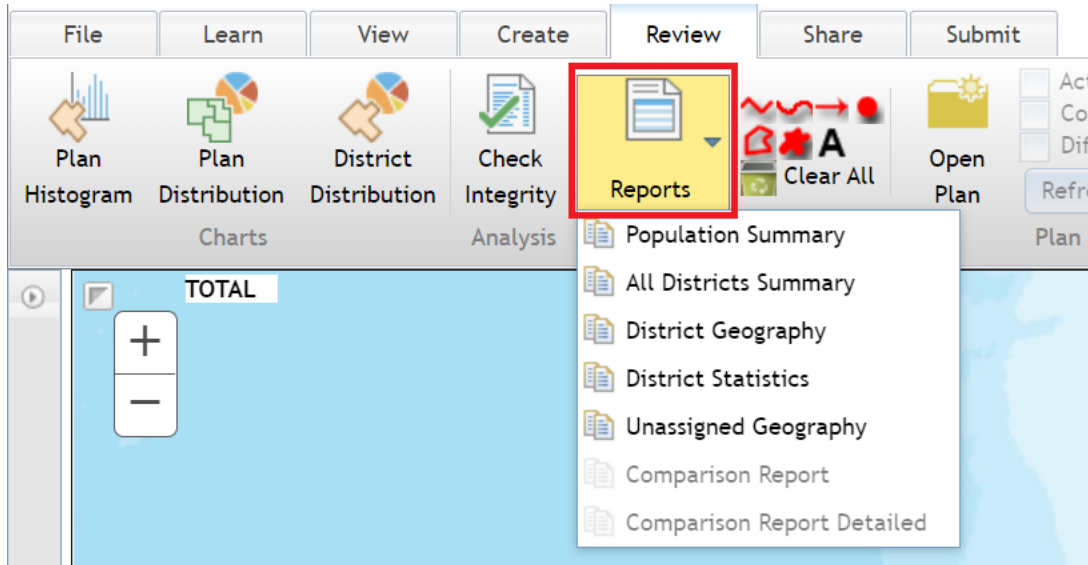
Once your shapefile has been uploaded into your plan, you can use it with other functions in the redistricting application. In the example below, the Identify function (see the *Identify Features* section of this document for information on that topic) is used to identify a school district on the map:



Review Ribbon

Reports

The application includes the ability to create reports for your plan. In the Review ribbon, click on the Reports button. A drop-down list of options appears:



Population Summary Report

Click on the Population Summary option. The Report Definition window appears:

Report Definition

Report Title:

☐ Use Percent(%)

Report Type:

- ☒ PDF
- ☐ Excel
- ☐ HTML

☐ Email the report

WHITENH
TOTALHISP
BLACKNH
ASIANNH
HPINH
OTHERNH

Under Report Title, you can change the name of the report.

The Use Percent (%) checkbox specifies whether you want your report to contain population counts or percentages instead.

The list below “Email the report” shows which variables will be included in the report.

Under “Report Type” you can choose what format the report will be in – PDF, Excel, or HTML.

If you click the “Email the report” checkbox, you can e-mail the report to someone. You can click on the Email Settings button to specify who you want to send it to.

When you click on the OK button, the report is created:

Plan: Report Example Plan Plan No.: 8d23523152654a9dae0bb62acada6a60b

Population Summary Report										
District No.	TOTAL Population	Target Population	Target Deviation	Target Deviation (%)	Non-Hispanic white	Hispanic or black	Non-Hispanic black	Non-Hispanic Asian	Non-Hispanic Hawaiian or Other Pacific Islander	Non-Hispanic some other race
D1	638,512	638,512	0	0.00	460,929	88,211	14,283	59,819	3,319	1,479
D2	638,513	638,512	1	0.00	449,518	75,934	43,345	48,741	4,309	1,703
D3	638,512	638,512	0	0.00	525,686	70,638	5,981	20,212	1,811	939
D4	638,512	638,512	0	0.00	486,909	108,926	6,731	13,677	3,691	1,096
D5	638,513	638,512	1	0.00	544,197	55,930	4,866	8,887	1,929	1,043
D6	638,512	638,512	0	0.00	538,609	50,423	7,155	18,848	1,894	1,150

TOTAL Population:	3,831,074
Mean Target Population:	638,512
Mean Deviation:	0
Mean Percent Deviation:	0.00
Largest Positive Deviation:	1
Largest Negative Deviation:	0
Overall Range in Deviation:	1
Overall Range in Deviation Percentage:	0.00

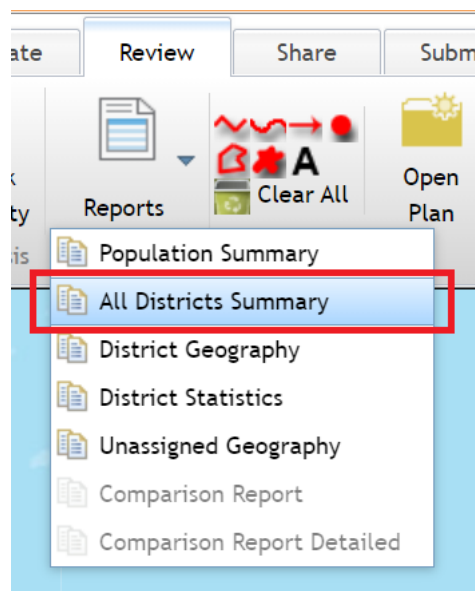
The report includes the population breakdown by district and race/ethnicity. It also includes the target total population and the districts’ deviations.

If you encounter issues using the PDF and Excel options, try using the HTML Report Type option, which opens the report in a new Internet

browser window. You can also try turning off ad and pop-up blockers if you have any installed, and/or e-mail the report to yourself.

All Districts Summary Report

Return to the Reports menu and click on All Districts Summary:



The Report Definition window we saw from the Population Summary option appears; the only difference is this report does not have the option to show percentages instead of population counts.

The All Districts Summary provides a report showing racial and ethnic breakdowns by age group and district. Below is an example showing the first district in this plan; the rest of the districts appear after this in the report:

SUPPLEMENTAL GUIDE TO THE REDISTRICTING SOFTWARE

Plan: Report Example Plan

All Districts Summary Report

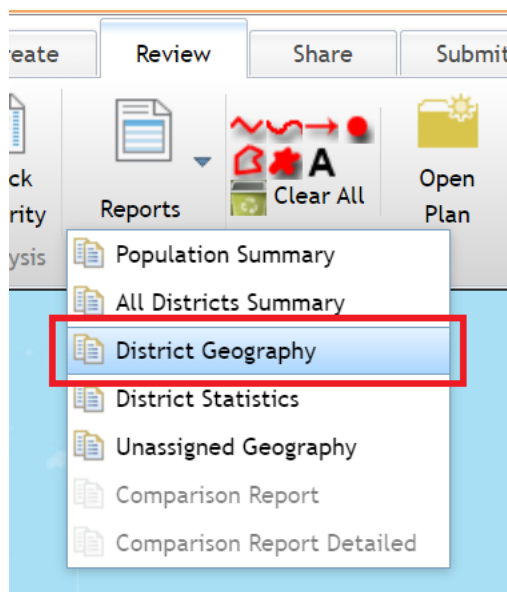
Plan No.: 8d23523152654a9dae0bb62acad6a60b

District No.	D1
Total Population	638,512
Total Population 18+	485,085
Deviation	0
Dev. %	0

	Total Hispanic	Total Non-Hispanic	Non-Hispanic white	Non-Hispanic black	Non-Hispanic American Indian/Alaskan Native	Non-Hispanic Asian	Non-Hispanic some other race
Total	88,211	550,301	460,929	14,283	6,896	59,819	1,479
Total%	13.82	86.18	72.19	2.24	1.08	9.37	0.23
Total 18+	53,753	431,332	369,400	9,056	5,191	42,455	942
Total 18+ ^c	11.08	88.92	76.15	1.87	1.07	8.75	0.19

District Geography Report

The third report option is the District Geography report:



The Report Definition window where you specify your report options appears again. Below is an example of this report. The report lists every geography in your plan and which district it is assigned to. Racial and ethnic breakdowns of those geographies are also included. The FIPS refers to the Census ID for a given geography:

SUPPLEMENTAL GUIDE TO THE REDISTRICTING SOFTWARE

Plan: Report Example Plan

Plan No.: 8d23523152654a9dae0bb62acad6a60b

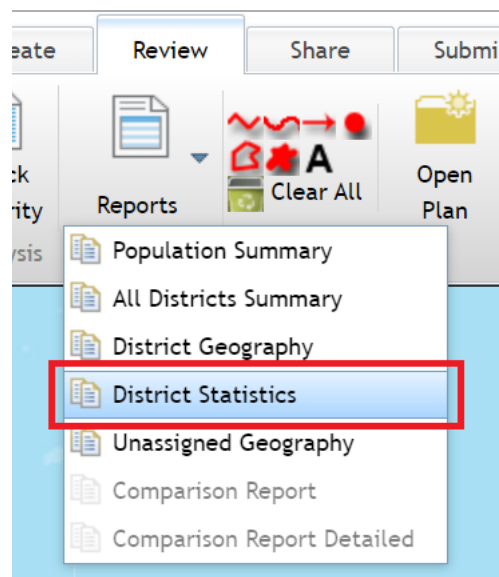
District Geography Report

FIPS	District No.	Total Population	Hispanic (%)	Non-Hispanic (%)	Non-Hispanic white (%)	Non-Hispanic black (%)	Non-Hispanic American Indian/Alaskan Native (%)	Non-Hispanic Asian (%)	Non-Hispanic some other race (%)
41051004300	1	1,069	4.49	95.51	88.31	0.94	1.96	3.74	0.19
41051004500	1	1,893	3.54	96.46	87.64	2.54	1.22	4.01	0.37
41051004601	1	3,219	2.70	97.30	89.90	0.87	0.47	5.25	0.31
41051004602	1	2,011	3.63	96.37	88.76	0.70	0.75	5.62	0.25
41051004700	1	4,068	5.01	94.99	85.89	1.35	1.03	5.90	0.15
41051004800	1	2,758	5.80	94.20	84.26	1.67	1.56	5.55	0.25
410510049002008	1	356	5.06	94.94	83.99	2.53	1.97	5.06	0.56
410510049002007	1	77	10.39	89.61	80.52	5.19	3.90	0.00	0.00
410510049002006	1	112	7.14	92.86	83.93	1.79	3.57	2.68	0.00
410510049002005	1	5	0.00	100.00	100.00	0.00	0.00	0.00	0.00
410510049002004	1	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
410510049002003	1	21	9.52	90.48	80.95	4.76	0.00	4.76	0.00
410510049002002	1	342	10.82	89.18	75.44	6.43	2.63	2.34	0.29
410510049002001	1	72	4.17	95.83	91.67	0.00	2.78	1.39	0.00
410510049002000	1	46	2.17	97.83	86.96	0.00	0.00	8.70	0.00
410510049001	1	1,338	6.80	93.20	79.30	0.90	0.82	11.51	0.30
410510049002010	1	115	6.96	93.04	88.70	1.74	0.87	1.74	0.00
410510049003	1	1,047	5.44	94.56	81.09	5.25	1.53	5.25	0.10
41051005000	1	2,291	3.75	96.25	84.98	1.66	0.74	8.16	0.26
41051005100	1	7,926	5.65	94.35	76.94	7.23	2.55	6.43	0.26

Be aware that if your plan uses Census blocks and divides multiple counties, this report can be *extremely* long. The example above is from a 200-page-long report.

District Statistics Report

The District Statistics report is the fourth report option:



The Report Definition window where you specify your report options appears again. The District Statistics report is similar to the Population Summary report, but this one includes both population counts and percentages in a single table:

Plan: Report Example Plan

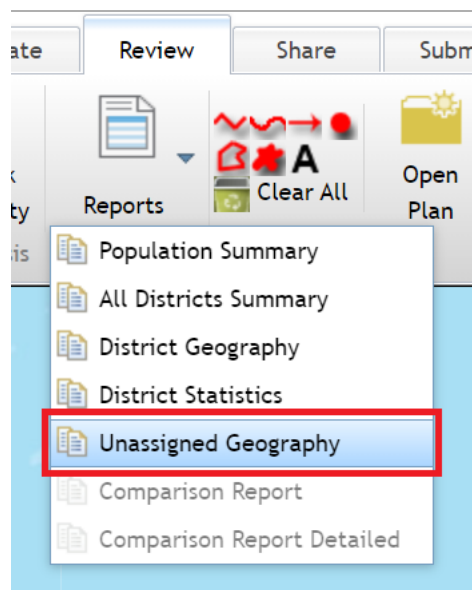
District Statistical Report

Plan No.: 8d23523152654a9dae0bb62acad6a60b

District No.	TOTAL Population	Target Population	Target Deviation	Target Deviation (%)	Non-Hispanic	Non-Hispanic white	Non-Hispanic black	Non-Hispanic American Indian/ Alaskan Native	Non-Hispanic Asian	Non-Hispanic some other race
D1	638,512	638,512	0	0.00	550,301	460,929	14,283	6,896	59,819	1,479
					86.18%	72.19%	2.24%	1.08%	9.37%	0.23%
D2	638,513	638,512	1	0.00	562,579	449,518	43,345	10,204	48,741	1,703
					88.11%	70.40%	6.79%	1.60%	7.63%	0.27%
D3	638,512	638,512	0	0.00	567,874	525,686	5,981	11,476	20,212	939
					88.94%	82.33%	0.94%	1.80%	3.17%	0.15%
D4	638,512	638,512	0	0.00	529,586	486,909	6,731	15,357	13,677	1,096
					82.94%	76.26%	1.05%	2.41%	2.14%	0.17%
D5	638,513	638,512	1	0.00	582,583	544,197	4,866	19,888	8,887	1,043
					91.24%	85.23%	0.76%	3.11%	1.39%	0.16%
D6	638,512	638,512	0	0.00	588,089	538,609	7,155	18,102	18,848	1,150
					92.10%	84.35%	1.12%	2.84%	2.95%	0.18%

Unassigned Geography Report

The next report option is the Unassigned Geography report:



The Report Definition window where you specify your report options appears again. The Unassigned Geography report is similar to the District Geography report, but this one lists all the geographies you have *not* assigned to a district, along with the demographics of those geographies:

Plan: Report Example Plan

Unassigned Geography Report

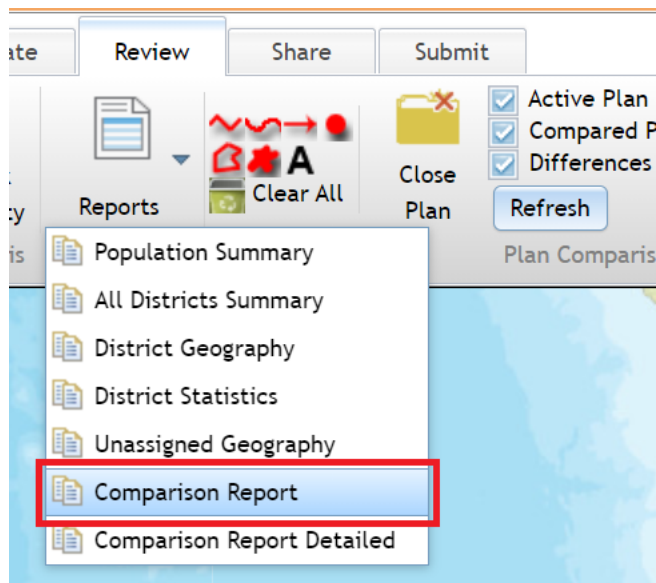
Plan No.: 8d23523152654a9dae0bb62acad6a60b

FIPS	Total Population	Non-Hispanic (%)	Hispanic (%)	Non-Hispanic white (%)	Non-Hispanic black (%)	Non-Hispanic American Indian/Alaskan Native (%)	Non-Hispanic Asian (%)	Non-Hispanic some other race (%)
41045940000	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
410459702002022	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
410459702002023	1	100.00	0.00	0.00	0.00	100.00	0.00	0.00
410459702002024	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
410459702002025	73	46.58	53.42	45.21	0.00	0.00	1.37	0.00
410459702002026	15	80.00	20.00	80.00	0.00	0.00	0.00	0.00
410459702002027	43	41.86	58.14	37.21	2.33	0.00	2.33	0.00
410459702002028	29	58.62	41.38	58.62	0.00	0.00	0.00	0.00
410459702002029	47	63.83	36.17	63.83	0.00	0.00	0.00	0.00
410459702002030	28	14.29	85.71	14.29	0.00	0.00	0.00	0.00
410459702002031	27	44.44	55.56	40.74	0.00	3.70	0.00	0.00
410459702002032	24	50.00	50.00	50.00	0.00	0.00	0.00	0.00

Comparison Report

If you have a comparison plan open, you can generate reports which compare your plan to the comparison plan.

Choose the Comparison Report option. This option will only be available if you have a comparison plan open:



The Report Definition window where you specify your report options appears as it does with the other report types. In this example, we are comparing the example plan to the current Congressional plan.

The basic Comparison Report shows how the comparison plan compares to yours. In this example, the report shows that District 1 (D1) has 127,704 fewer people in the comparison plan than it does in the example plan. The sixth district has 638,512 more people than the comparison plan has. Since Oregon gained a 6th Congressional district with the 2020 Census, comparing any 6-district Congressional plan to the current Congressional districts will show large differences like the ones we see in this example:

Plan: Report Example Plan
Compare Plan: Congressional (Current; 2010 Data)

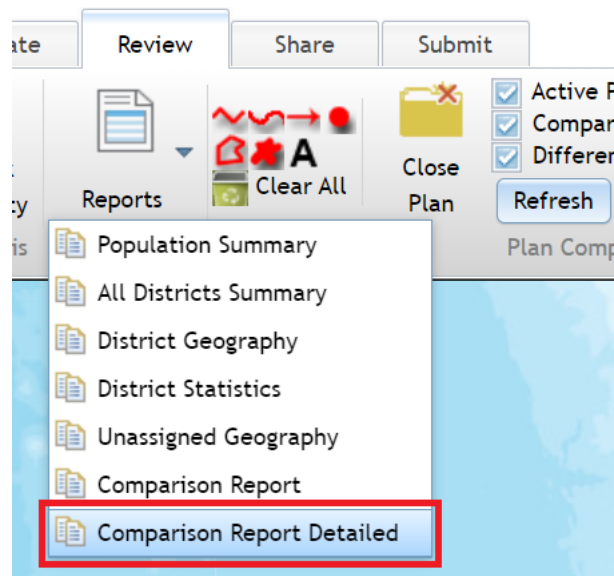
Plan No.: 8d23523152654a9dae0bb62acad6a60b

District No.	Total	Total voting age	Non-Hispanic white voting age population	Non-Hispanic black voting age population	Hispanic voting age population	Non-Hispanic American Indian/Alaskan Native voting age population	Non-Hispanic Asian voting age population	Non-Hispanic Hawaiian or Other Pacific Islander voting age population	Non-Hispanic some other race voting age population
D1	-127,704	-92,983	-80,940	282	-9,747	-2,582	487	-213	-102
D2	-127,702	-87,091	-127,347	25,675	-9,341	-8,833	29,027	1,378	456
D3	-127,703	-118,454	-49,159	-27,228	-8,854	-996	-27,318	-1,892	-770
D4	-127,702	-130,671	-151,221	-597	31,514	-4,270	-6,155	760	-271
D5	-127,701	-75,466	-29,916	-2,510	-34,286	3,605	-10,432	-1,339	-130
D6	638,512	504,665	438,583	4,378	30,714	13,076	14,391	1,306	817
TOTALS	0	0	0	0	0	0	0	0	0

Note that the comparison report includes demographics about the voting age population – not the total population. The voting age population refers to individuals 18 years of age and over.

Comparison Report Detailed

The last report option is the Comparison Report Detailed option; as with the regular Comparison Report, this option will only be available if you have a comparison plan open:



The Report Definition window where you specify your report options appears again. This report contains the same variables as the regular Comparison Report, but each variable uses its abbreviation instead of the field name.

The report breaks down each individual difference between your plan and the comparison plan. Each possible combination is given a section like the one outlined in red below:

SUPPLEMENTAL GUIDE TO THE REDISTRICTING SOFTWARE

Plan: Report Example Plan

Comparison Report - Detailed

TOTAL	TOTAL18	WHITENH18	BLACKNH18	HISP18	AIANNH18	ASIANNH18	HPINH18	OTHERNH18
Portion of Plan Report Example Plan, D1 from Plan Congressional (Current; 2010 Data), D1 (9830 blocks)								
580,633	436,534	327,953	7,760	51,783	4,620	39,659	2,037	818
100%	100%	75.13%	1.78%	11.86%	1.06%	9.08%	0.47%	0.19%
Portion of Plan Report Example Plan, D1 from Plan Congressional (Current; 2010 Data), D3 (1267 blocks)								
53,306	44,708	38,144	1,225	1,821	534	2,541	140	117
100%	100%	85.32%	2.74%	4.07%	1.19%	5.68%	0.31%	0.26%
Portion of Plan Report Example Plan, D1 from Plan Congressional (Current; 2010 Data), D5 (112 blocks)								
4,573	3,843	3,303	71	149	37	255	9	7
100%	100%	85.95%	1.85%	3.88%	0.96%	6.64%	0.23%	0.18%
Summary of Plan Report Example Plan, D1 (11209 blocks)								
638,512	485,085	369,400	9,056	53,753	5,191	42,455	2,186	942
100%	100%	76.15%	1.87%	11.08%	1.07%	8.75%	0.45%	0.19%

Each section's heading contains identifying information. In the red-outlined example above, *D1 from Plan Congressional (Current; 2010 Data)* refers to District 1 from the plan named "Congressional (Current; 2010 Data)." This is the comparison plan. *D1* refers to District 1 of your plan. *(9830 blocks)* means this section contains data about the 9,830 Census blocks in this category.

In other words, this heading tells us there are 9,830 Census blocks from the comparison plan's District 1 that are also in your plan's version of District 1. The next section shows us information about blocks in the comparison plan's District 1 that are in your plan's District 3. The bottom section, *Summary of Plan Report*, includes the total numbers in your plan's version of District 1. The sections above it that pertain to your version of District 1 should add up to these numbers.

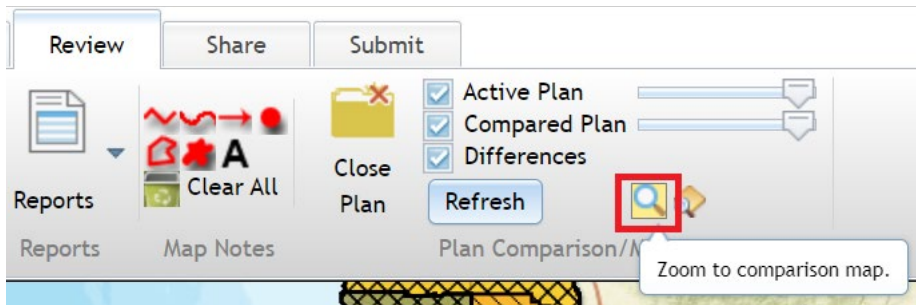
The numbers show the demographics for each of these combinations. In this red-outlined example, those Census blocks add up to a population of 580,633. Of the voting-age population, 51,783 individuals (11.86%) are Hispanic.

Note that if your plan and the plan you're comparing to have many differences, this report can grow to be quite lengthy.

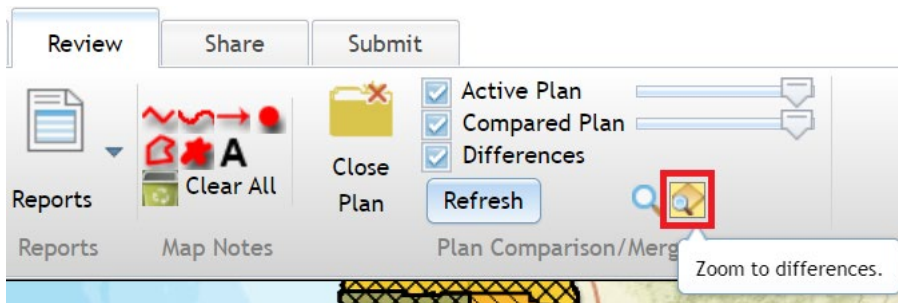
Comparing a Plan: Additional Functions

Zooming and Refreshing

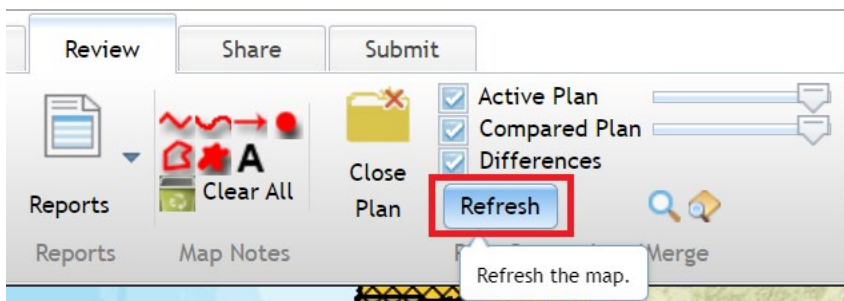
If you have a comparison plan open, you can zoom the map specifically to the comparison plan by clicking on the “Zoom to comparison map” button:



If you want to zoom to locations that are different between your plan and the comparison plan, click the “Zoom to differences” button:



If you have made any changes to your plan while comparing it, you may need to click the Refresh button to ensure the application is showing the most up-to-date comparison:



Comparing Plans in the District Window

If you have a comparison plan open, you can click on the Comparison tab in the District window:

District	TOTAL	TARGET_DEV	TOTALHISP	TOTALHISP_P	WHITENH	WHITENH_P	BLACKNH	BLACKNH_P	AIANNH	AIANNH_P	ASIANNH	ASIANNH_P	HPINH	
Unassigned	0	0	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	
1	766,216 (+127,704)	127,704	104,935 (+16,724)	13.70	567,724 (+106,795)	74.09	14,235 (-48)	1.86	10,545 (+3,649)	1.38	59,600 (-219)	7.78	3,659 (+34)	
2	766,215 (+127,702)	127,703	94,661 (+18,727)	12.35	626,717 (+177,199)	81.79	5,861 (-37,484)	0.76	23,409 (+13,205)	3.06	10,317 (-38,424)	1.35	2,288 (-2,02)	
3	766,215 (+127,703)	127,703	82,213 (+11,575)	10.73	558,927 (+33,241)	72.95	45,528 (+39,547)	5.94	12,058 (+582)	1.57	55,622 (+35,410)	7.26	4,655 (+2,84)	
4	766,214 (+127,702)	127,702	51,439 (-57,487)	6.71	659,098 (+172,189)	86.02	7,839 (+1,108)	1.02	20,779 (+5,422)	2.71	20,743 (+7,066)	2.71	2,157 (-1,53)	
5	766,214 (+127,701)	127,702	116,814 (+60,884)	15.25	593,382 (+49,185)	77.44	8,898 (+4,032)	1.16	15,132 (-4,756)	1.97	23,902 (-15,015)	3.12	4,194 (+2,28)	
6	0 (-638,512)	-638,512	0 (-50,423)	0.00	0 (-538,609)	0.00	0 (-7,155)	0.00	0 (-18,102)	0.00	0 (-18,848)	0.00	0 (-1,89)	

Districts
Proposed
Assigned
Comparison
Attributes

This table compares your plan to the comparison plan.

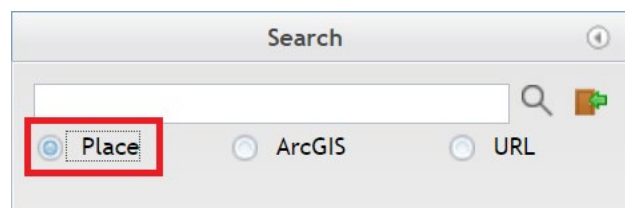
The black numbers refer to the comparison plan; in this example, the comparison plan's first district has 766,216 people.

Green numbers refer to variables where the comparison plan has higher numbers than your plan; in this example, the comparison plan's first district has 127,704 more people than the example plan's first district.

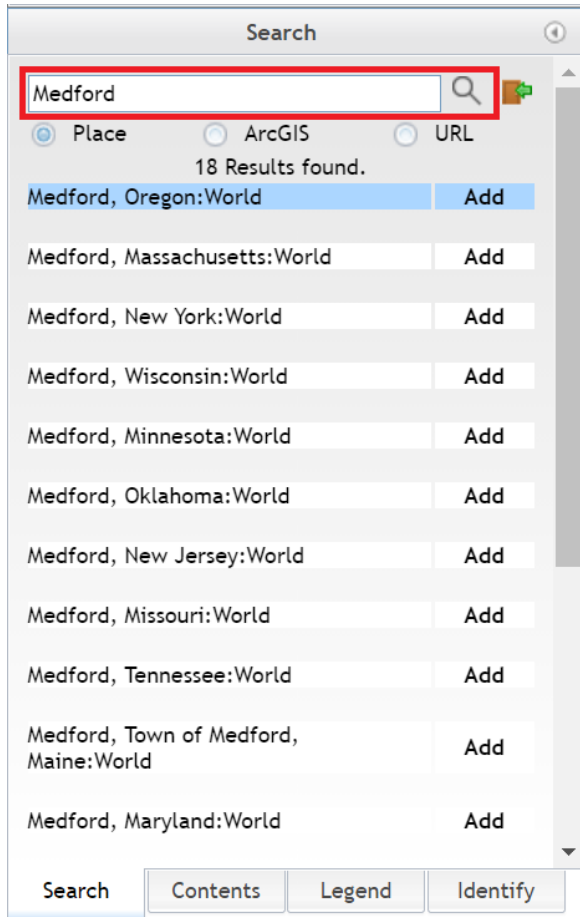
Red numbers refer to variables where the comparison plan has lower numbers than your plan; in this example, the comparison plan's first district has 48 fewer non-Hispanic black residents than the example plan's first district.

Search Panel

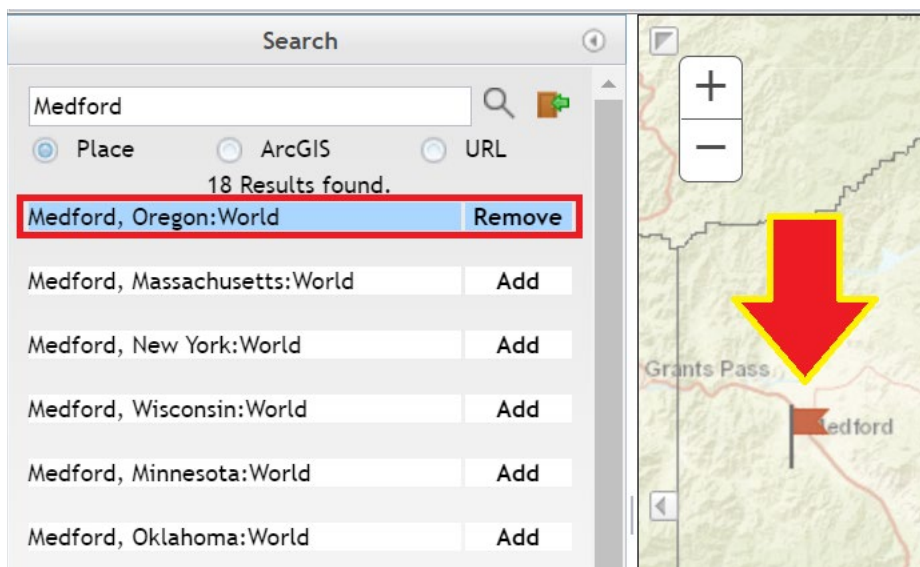
In addition to the search ArcGIS and GIS service functions described earlier, the Search panel also has the Place function:



To use this function, type a place into the search bar and click the Search icon (the magnifying glass next to the search bar). A list of results will appear in the panel:



When you click on “Add” next to the result you want, a flag marker appears on the map and zooms to the location you chose:

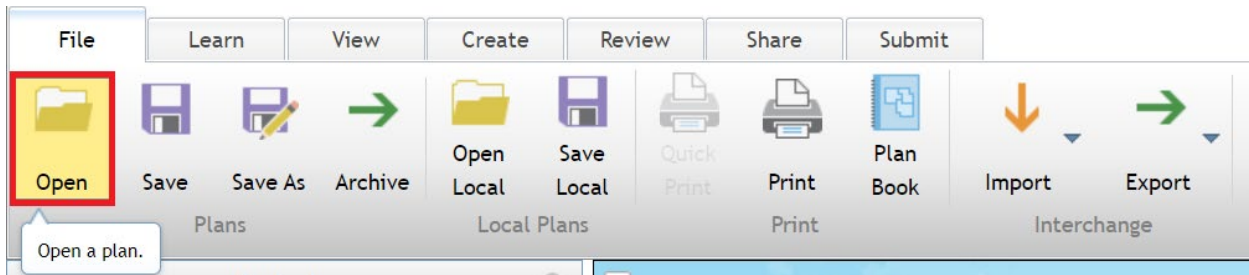


Clicking Remove will remove the marker from your map.

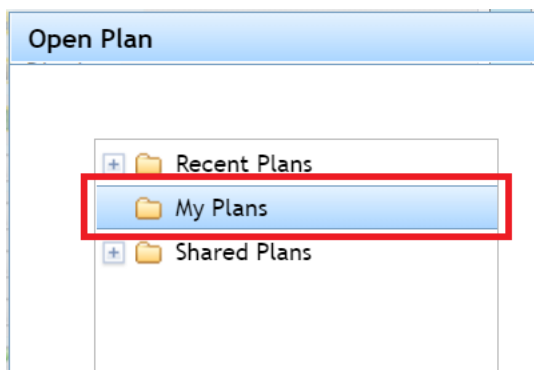
Other Functions

Renaming Plans

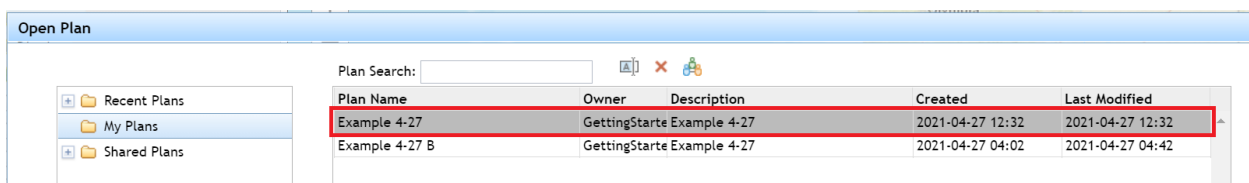
You can rename your plans. Click the Open button in the File ribbon:



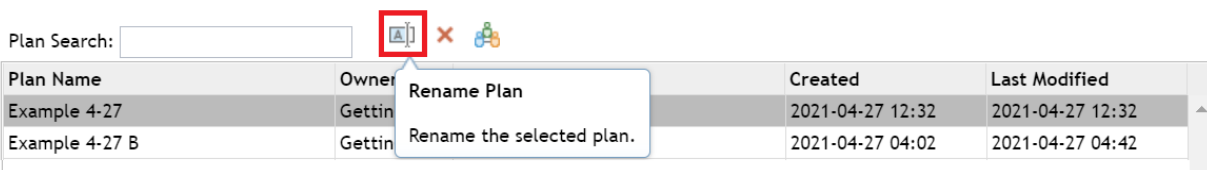
In the Open Plan window, click on the My Plans folder:



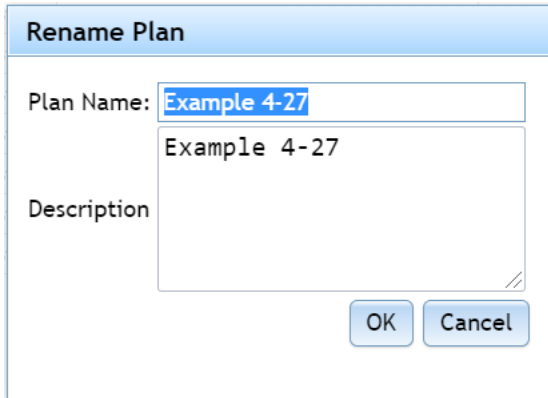
Click on the plan you want to rename:



Click the Rename Plan icon:



The Rename Plan window appears, where you can change the plan name and description. Click OK when you're done, or Cancel to cancel any changes:



Rename Plan

Plan Name:

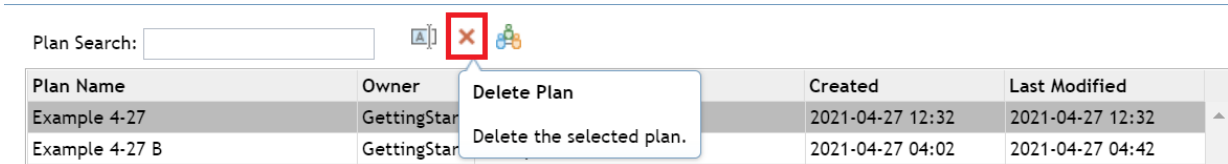
Description:

OK Cancel

Note that you can only rename plans you “own,” but not plans others have created.

Deleting Plans

You can delete plans using the same window used to rename them. After selecting a plan, click the Delete Plan icon:

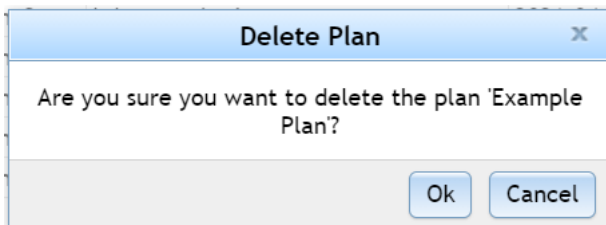


Plan Search:

Plan Name	Owner	Created	Last Modified
Example 4-27	GettingStar	2021-04-27 12:32	2021-04-27 12:32
Example 4-27 B	GettingStar	2021-04-27 04:02	2021-04-27 04:42

Delete Plan
Delete the selected plan.

The Delete Plan window appears. Clicking OK deletes the plan. Clicking Cancel keeps the plan.



Delete Plan

Are you sure you want to delete the plan 'Example Plan'?

Ok Cancel

Potential Strategies

Going About the Process

There is no single way to redistrict a state. Strategies and suggestions abound, and you may need to practice to find a system that works well for you. Some potential ideas are below:

- Start with the existing districts and gradually move them until populations are equalized.
- Start with edges of the state. If you create numerous interior districts first and move outward, it might become more difficult to balance populations in outer districts.
- Use the Show Totals option (found in the View ribbon) when working with your districts. Make use of the demographic data in the District Window and in the Themes function. These help track your population numbers.
- Work along roads. Transportation connections within a district are among the state's criteria for redistricting; following road networks can help meet this.
- Learn about Oregon's geography and people. Both the House and Senate redistricting committees have held informational hearings, and many online resources also exist.
 - Oregon Redistricting Website:
<https://www.oregonlegislature.gov/redistricting>
 - House Redistricting Committee:
<https://olis.oregonlegislature.gov/liz/2021R1/Committees/HR/ED/Overview>
 - Senate Redistricting Committee:
<https://olis.oregonlegislature.gov/liz/2021R1/Committees/SR/ED/Overview>
 - Student Atlas of Oregon:
https://pdxscholar.library.pdx.edu/geographyed_instructional/1/

Document Updates

Changes for Document 1.2 (August 2021)

- References to 2010 and 2020 data updated as necessary

- Submit plan section removed; this option is now active and described in the *Getting Started* document instead

Credits

The LPRO redistricting team includes:

- Kevin Rancik; GIS Analyst; training document author
- Allison Daniel; GIS Analyst
- Patrick Brennan; Analyst
- Michael Lantz; Counsel
- Sean Murphy; Committee Assistant

For questions, comments, or suggestions, please e-mail us at Oregon.Redistricting@oregonlegislature.gov.